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Chapter 4 - Cooperators, Consultation/Coordination, and Preparers

The following tables identify the Cooperators on this project, tribes, agencies, and individuals Consulted/Coordinated with, and the Forest Service Interdisciplinary (ID) Team members. This chapter also provides the References used, a list of terms used, (in the Glossary), and an Index.

Cooperators

Table 1 - Project Cooperators

Title	Group or Agency
Field Office Manager	Bureau of Land Management (BLM) Butte Office
Supervisory Natural Resource Specialist	BLM Dillon Office
Region 3 Supervisor	Montana Fish, Wildlife & Parks (MFWP), Mount Haggin Wildlife Management Area

Agencies and Individuals Consulted/Coordinated With

Table 2 - Agencies and Individuals Consulted/Coordinated With

Title	Agency, Nation, Group, or Individual	Area of Specialty for this Project
Wildlife Biologist	United States Fish & Wildlife Service (USFWS)	Threatened and Endangered Species, Wildlife
Fish Biologist	USFWS	Threatened and Endangered Species, Fish
Wildlife Biologists	MFWP, Region 3 Butte Field Office	Terrestrial Wildlife
Refuge Manager	MFWP, Mount Haggin Wildlife Management Area	Refuge Management
Range Managers	BLM Butte District Office	Range Management
Range Managers	BLM Dillon Field Office	Range Management
Tribal Historic Preservation Officer	Confederated Salish-Kootenai Nation	Tribal Relations
Tribal Historic Preservation Officer	Black Foot Tribe	Tribal Relations
Cultural Program Manager	Shoshone-Bannock Tribe	Tribal Relations
Existing term grazing permit holders	Individual	Livestock Management
Aquatic Program Manager	BDNF	Aquatics

Title	Agency, Nation, Group, or Individual	Area of Specialty for this Project
Environmental Coordinator	BDNF	National Environmental Policy Act
Wildlife Program Manager	BDNF	Wildlife
Planning, Budget, and Resources Staff Officer	BDNF	Planning and Budget

Interdisciplinary Team Members

Table 3 - Interdisciplinary Team Members

Name	Title	Area Of Specialty for this Project
Jan Bowey	Appeals/Litigation Coordinator	ID Team Leader
Jessica Dhaemers	Wise River/Wisdom District Range Specialist	Range and Weeds
Daniel Downing	Wise River/Wisdom District Aquatics Specialist	Aquatics
Pam Fletcher	Planner	Soils
Nathan Gassmann	Wise River/Wisdom/Dillon Districts Recreation Specialist	Wilderness, Inventoried Roadless Areas, Recreation
Kevin Greenwood	Wise River/Wisdom District Range Specialists	Range and Weeds
Laura Hudnell (retired)	Interdisciplinary (ID) Team Leader	ID Team Leader
Steven Kujala	Geographic Information System (GIS) Specialist	GIS
Ryan Powell	South Zone Archeologist	Heritage/Cultural Resources
Russell Riebe	Wisdom/Wise River District Ranger	District Ranger/Responsible Official
Jenna M. Roose	South Zone Wildlife Biologist	Wildlife Biologist
Dave Ruppert	Forest Soil Scientist	Soil
Jessie Salix	Forest Botanist	Botany/Sensitive Plants
Keith Stockmann	Regional Economist	Social/Economics
Kevin D. Weininger	Forest Hydrologist	Hydrology

Name	Title	Area Of Specialty for this Project
Douglas Wright	Forest Landscape Architect	Scenery

Distribution of the Final Environmental Impact Statement

This Final Environmental Impact Statement (FEIS) has been distributed to individuals who commented during the scoping period, to the DEIS and those who specifically requested a copy of the document. In addition copies have been sent to the following Federal agencies, federally recognized tribes, state, and local governments, and organizations. These groups and individuals represent a wide range of views regarding the updating of grazing management and infrastructure on eleven domestic grazing allotments (Seymour, Fishtrap, Mudd Creek, Pintler Creek, Mussigbrod, Ruby Creek, Dry Creek, Twin Lakes, Monument, Pioneer, and Saginaw) to comply with the applicable 2009 Beaverhead-Deerlodge Land and Resource Management Plan (Forest Plan) direction.

Table 4 - FEIS Distribution List

Name	Title	Agency, Tribal, Organization, or Individual Affiliation
	Field Office Manager	BLM Butte Office
Patricia Fosse	Supervisory Natural Resource Specialists	BLM Dillon Office
Pat Flowers	Region 3 Supervisor, Commenter	MFWP
Suzanne Bohan	Region 8 Headquarters	EPA
Julia A. DalSoglio	EPA Region 8 Montana, Commenter	EPA
Robert Ray	Director	Montana Department of Environmental Quality
Nathan Small	Chairman Ft. Hall Business Council	Shoshone-Bannock Tribes
Carolyn Boyer-Smith	Cultural Resources Coordinator	Shoshone-Bannock Tribes
Yvette Tuell	Environmental Program Manager	Shoshone-Bannock Tribes
	County Commissioner	Beaverhead County Commissioner
	County Planner	Beaverhead County Planning
	County Commissioner	Anaconda-Deerlodge County Commissioner
	Weed Coordinator	MFWP
Jim Olson	Region 3 Fish Biologist	MFWP
Vanna Boccadori	Region 3 Wildlife Biologist	MFWP
Michael T. Garrity	President,	Alliance for the Wild Rockies
Sara Johnson	President	Native Ecosystem Council
Vince Colucci	-	Individual

Name	Title	Agency, Tribal, Organization, or Individual Affiliation
Harry & Hans Humbert	Permittee	Dell Bacon Ranch
Heidi Hirschy	Permittee	Dick Hirschy Cattle Co.
	Chair	Beaverhead County Conservation District
Tim Egan		Dept. Natural Resource Conservation
Kyle Tackett		USDA Natural Resource Conservation Service
Ingrid Drieling	Rangeland Management Specialist	Salmon-Challis National Forest
Andrew Gorder	Staff Attorney	Cottonwood Environmental Law Center
Nancy Schultz	-	Gallatin Wilderness Assoc.
	Division Administrator	Montana HAD-MT
	Deputy Director	APHIS PPD/EAD
	National Environmental Coordinator	USDA Natural Resource Conservation Service
	Director, Planning and Review	Advisory Council on Historic Preservation
	Acquisitions & Serials Branch	National Agricultural Library
	Northwestern Division	U.S. Army Corps of Engineers
	Energy and Environmental Readiness Division	Chief of Naval Operations (N45)
	Director	OEPC
	Director	Northwest Power Planning Council
	Environmental Impact Branch G-MEP	U.S. Coast Guard
	Regional Director, Northwest Mountain Region	Federal Aviation Administration
	Director, NEPA Policy & Compliance, DOE	DOE
Kim Kajin	Permittee	Individual
Kim Bacon	Permittee	Individual
David Buck	Permittee	Individual
John L. Lewis	Permittee	Individual
Clyde Thompson	Permittee	Individual
Philip & Sarah Ralston	Permittee	Individual
Ernest K. Bacon, LP	Permittee	Individual
Barbara Gibbons	Permittee	Torrey MT Ranch Lands Assoc
Lee & Lurene Kirkpatrick	Permittee	Individual

Name	Title	Agency, Tribal, Organization, or Individual Affiliation
Dean Stanchfield	Permittee	Stanchfield Cattle Co.
Don & Liz Jones	Permittee	Rafter Ranch, Inc.
Harold D. Peterson	Permittee	Peterson Bros. Cattle Co.
	Permittee	Johnson Brothers, Inc
	Permittee	Jackson Ranches
Larry Krizan	-	Individual
	Permittee	Jack Hirschy Livestock, Inc.
	Permittee	Husted Ranches, Inc.
Clayton Huntley	Permittee	Huntley & Son Inc. HCR
Robert A. James	Permittee	Horse Prairie Livestock L.P.
Dennis and Bruce Bacon	Permittee	HJB Ranch, LLC
	Permittee	Foster Land & Cattle Co.
MD Peterson	Permittee	Forty Bar Ranch, Inc.
DJ Smith	Permittee	Individual
Jay Lyndes	Permittee	Arrow Ranches, LLC
Sharon & Ed Stede	Permittee	Big Hole Petroleum
Robert J. Wueste, LLC	Permittee	Individual
	Permittee	Dick Hirschy Cattle Co.
William Bigday	Tribal Preservation Officer Cultural & Burial Preservation	Crow Tribe
Cedrick Black Eagle	Chairman	Crow Tribe
	Tribal Preservation Office	Easter Shoshone Tribe
Darwin St. Clair Jr	Chairman– Business Council	Easter Shoshone Tribe
Willie A. Sharp	Chairman Blackfeet Tribal Business Council	Blackfeet Tribe
John Murray	Tribal Historic Preservation Officer Blackfeet Planning and Development	Blackfeet Tribe
Josiah Pinkham	Tribal Archaeologist	Nez Perce Tribe
Silas C. Whitman	Chairman, Nez Perce Tribal Executive Committee	Nez Perce Tribe
Keith “Pat” Baird	Tribal Historic Preservation Officer	Nez Perce Tribe
Ron Trahan	Chairman Tribal Council	Confederated Salish and Kootenai Tribes
Ira Matt	Tribal Historic Preservation Officer	Confederated Salish and Kootenai
Jen Downing		Big Hole Watershed Committee
George Wuerthner		
Wayne Ullman		
Stephen R Brown		Garlington, Lohn & Robinson PLLP

References Cited

- Ahlenslager K., and L. Potash. 2007. Conservation Assessment for 13 Species of Moonworts (*Botrychium* Swartz Subgenus *Botrychium*). Unpublished Report. USDA Forest Service, Region 6 and USDI Bureau of Land Management, Oregon and Washington. 57 p.
- American Farmland Trust. 2002. "Strategic Ranchland in the Rocky Mountain West." Rocky Mountain Projects. http://www.farmland.org/rocky_mountain/strategic_ranchlands1.htm.
- Anderson, C. R., M. A. Terner, D. S. Moody. 2002. Grizzly bear-cattle interaction on two cattle allotments in northwest Wyoming. *Ursus*. Vol 13: 247-256.
- Anderson, V. J. and R. M. Thompson. 1993. Chemical and Mechanical Control of False Hellebore (*Veratrum californicum*) in an Alpine Community. USDA Forest Service. Intermountain Research Station. Research Paper INT-469.
- Barton, D. and S. Mincemoyer. 2012. Personal Communication: *Botrychium crenulatum* specimen identification verification, October 2012.
- Bauer, G. 1987. Reproductive strategy of the freshwater pearl mussel *Margaritifera margaritifera*. *Journal of Animal Ecology*. 56: 691-704.
- Beatty, B.L., W.F. Jennings, and R.C. Rawlinson (2003). *Botrychium ascendens* W.H. Wagner (Trianglelobe moonwort), *B. crenulatum* W.H. Wagner (scalloped moonwort), and *B. lineare* W.H. Wagner (narrowleaf grapefern): a technical conservation assessment. [online]. USDA Forest Service, Rocky Mountain Region. Available: <http://www.fs.fed.us/r2/projects/scp/assessments/botrychiums.pdf> [accessed October 24, 2012].
- Belsky, A. J and D. M. Blumenthal. 1997. Effects of Livestock Grazing on Stand Dynamics and Soils in Upland Forest of the Interior West. *Conservation Biology*. Vol. 11, No. 2. Pp. 315-327.
- Berg, N. 2009. Beaverhead-Deerlodge National Forest Canada Lynx and Snowshoe Hare Habitat and Track Surveys. Greater Yellowstone Lynx Study, Jackson, WY. 22 p.
- Blanchard, B.M. and R. R. Knight. 1991. Movements of Yellowstone Grizzly bears. *Biological Conservation*. 58:41-67.
- Bohn, Brice. 2004. The Effectiveness of Allowable Use Levels in Recovering Streams Affected by Livestock. Internal Forest Service document. June, 2004.
- Bradley, L., J. Gude, N. Lance, K. Laudon, A. Messer, A. Nelson, G. Pauley, M. Ross, T. Smucker, and J. Steuber. 2013. Montana Gray Wolf Conservation and Management 2012 Annual Report. Montana Fish, Wildlife & Parks. Helena, Montana. 55 p.
- Brown, C. J. D. 1971. Fishes of Montana. Agricultural Experiment Station. Montana State University. Bozeman, MT.
- Brown, S.R, and J. A. Barber. 2012. Beaverhead-Deerlodge National Forest Existing Vegetation Database (VMap) Version 12. <http://www.fs.usda.gov/goto/r1/VMap>.
- Busby, F. E. and G.F. Gifford. 1981. Effects of Livestock Grazing on Infiltration and Erosion Rates Measured on Chained and Unchained Pinyon-Juniper sites in Southeastern Utah. *Journal of Range Management* 34 (5): 400-405.

- Cannon, M.E. and G.A. Nielsen. 1984. Estimating Production of Range Vegetation from Easily Measured Soil Characteristics. *Soil Science Society of America Journal*. 48 (6):1393-1397.
- Caudle, Dan et al. 2010. Interagency Ecological Site Description - Handbook for Rangelands (Draft). Washington Office, USDA Forest Service, Washington D.C.
- Christensen, A.G., L.J. Lyon, and J.W. Unsworth. 1993. Elk Management in the Northern Region: Considerations in Forest Plan Updates or Revision. USDA Forest Service Intermountain Research Station, General Technical Report INT-303.
- Cleland, D.T.; Avers, P.E.; McNab, W.H.; Jensen, M.E.; Bailey, R.G., King, T.; Russell, W.E. 1997. National Hierarchical Framework of Ecological Units. Published in, Boyce, M. S.; Haney, A., ed. 1997. *Ecosystem Management Applications for Sustainable Forest and Wildlife Resources*. Yale University Press, New Haven, CT. pp. 181-200.
- Connelly, J. W., Schroeder, M. A., Sands, A. R., & Braun, C. E. (2000). Guidelines to manage sage-grouse populations and their habitats. *Journal of Wildlife Management*, 28, 967-985.
- Connelly, J. W., S. T. Knick, M. A. Schroeder, and S. J. Stiver. 2004. Conservation Assessment of Greater Sage-grouse and Sagebrush Habitats. Western Association of Fish and Wildlife Agencies. Unpublished Report. Cheyenne, Wyoming.
- Corn, P.S., M. Jennings and E. Muths. 1997. Survey and assessment of amphibian populations in Rocky Mountain National Park. *Northwestern Naturalist* 78:34-55.
- Cosgriff, R., V.J. Anderson and S. Monson. 2004. Restoration of Communities Dominated by False Hellebore. *Journal of Range Management* 54: 4, 365-370.
- Dadkhah, M. and G.F. Gifford. 1980. Influence of vegetation, rock cover, and trampling on infiltration rates and sediment production. *Water Resources Bull.* 16:979-986.
- DeBenedetti, S. H., and D. J. Parsons. 1984. Post fire Succession in a Sierran Subalpine Meadow. *American Midland Naturalist*. Vol. 111, No. 1, 188-125.
- Devaurs, M. and G.F. Gifford. 1984. Variability of Infiltration within Large Runoff Plots on Rangelands. *Journal of Range Management* 37(6): 523-528.
- Devineau, O., T.M. Schenk, G.C. White, P.F. Doherty, P.M. Lukacs and R.H. Kahn. 2010. Evaluating the Canada lynx reintroduction programme in Colorado: patterns in mortality. *Journal of Applied Ecology*. 47: 524-531.
- Dorn, R. D. 1984. *Vascular Plants of Montana*. Mountain West Publishing. 276 p.
- Douglas, D. 1981. The Balance between Vegetative and Secual Reproduction of *Mimulus Primuloides* (Scrophulariaceae) at Different Altitudes in California. *Journal of Ecology*, 69(1): 295-310.
- Dunwiddie, P. W. 1977. Recent Tree Invasion of Subalpine Meadows in the Wind River Mountains, Wyoming. *Arctic and Alpine Research*, Vol. 9, No. 4 (Nov., 1977), pp. 393-399.
- Ecosystem Research Group. 2010. Beaverhead-Deerlodge Rapid Assessment. On file at the Supervisors Office.
- Elzinga, C. 1997. Habitat conservation assessment and conservation strategy - Lemhi penstemon (*Penstemon lemhiensis*). USDA Forest Service and USDI Bureau of Land Management. 46 p. + app.
- Farrar, D. 2006. Review of National Forest Region 6 conservation assessment for *Botrychium*, February

- 28, 2006. Unpublished memorandum to Kathy Ahlenslager, Iowa State University, Ames, IA. 6 p.
- Foresman, K. R. 2012. Mammals of Montana. Second Edition. Pp. 111-113. Mountain Press Publishing Company. Missoula, MT.
- Ganjugunte, G.K., G.F. Vance, C.M. Preston, G.E. Schuman, L.J. Ingram, P.D. Stahl, and J.M. Welker. 2005. Soil organic carbon composition in a northern mixed-grass prairie: effects of grazing. *Soil Sci. Soc. Am. J.* 69:1746-1756.
- Gebert, Krista M.; Odell, Susan L. 2007. A descriptive analysis of change in eligibility status for the USDA Forest Service Economic Recovery Program. Research Paper RMRS-RP-62WWW. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 32 p.
- Gevock, N. 2010. "Grizzlies roaming farther". *The Montana Standard*. June 17, 2010. http://mtstandard.com/news/local/article_891f7b28-79c7-11df-b313-001cc4c002e0.html . Accessed April 10, 2012.
- Grant, et. al. Effects of Forest Practices on Peak Flows and Consequent Channel Response: A State-of-Science Report for Western Oregon and Washington. May, 2008.
- Greenwood, Kevin. 2012. Personal communication through e-mail dated 10.12.2012. Titled: Re: Hall's rush campground fence.
- Greenwood, Kevin. 2012. Personal communication through e-mail dated 10.12.2012. Titled: Re: Upper Hamby Creek.
- Greenwood, Kevin. 2013. Personal communication through e-mail dated 9.19.2013. Titled: Re: WBP use in the south allotments.
- Greenwood, Kevin. 2013. Personal communication through e-mail dated 9.19.2013. Titled: Re: Personal Communications.
- Greenwood, Kevin. 2013. Personal communication through e-mail dated 10.05.2013. Titled: Re: Twin Lake Campground.
- Hamilton, E.W. III, D.A. Frank, P.M. Hinchey, and T. R. Murray. 2008. Defoliation induces root exudation and triggers positive rhizospheric feedbacks in a temperate grassland. *Soil Biology and Biochemistry* 40(11): 2865-2873.
- Hanauska-Brown, L., L. Bradley, J. Gude, N. Lance, K. Laudon, A. Messer, A. Nelson, M. Ross, and J. Steuber. 2012. Montana Gray Wolf Conservation and Management 2011 Annual Report. Montana Fish, Wildlife & Parks. Helena, Montana. 54 p.
- Hansen, P.L., R.D. Pfister, K. Boggs, B.J. Cook, J. Joy, and D.K. Hinckley. 1995. Classification and management of Montana's riparian and wetland sites. Misc. Pub. No. 54, Missoula, MT: The University of Montana, School of Forestry, Montana Forest and Conservation Experiment Station. 646 p.
- Headwaters Economics. 2013. Economics Profile System – Human Dimensions Toolkit (EPS-HDT). <http://headwaterseconomics.org/tools/eps-hdt>.
- Heady, H. F. 1994. Summary: Ecological Implications of Livestock Herbivory in the West. In: Vavra, M. W.A. Laylock, and R.D. Pieper, Eds. *Ecological Implications of Livestock Herbivory in the West*. Society for Range Management, Denver, CO.

- Heidel, B., and J.S. Shelly. 2001. The Effects of Fire on Lemhi Penstemon (*Penstemon lemhiensis*) - Final Monitoring Report, 1995-2000. Report to the Beaverhead-Deerlodge National Forest and the Dillon Field Office – Bureau of Land Management. Montana Natural Heritage Program, Helena. 22 pp. plus appendices.
- Herrick, Jeffrey E., Justin W. Van Zee, Kris M. Havstad, Laura M. Burkett and Walter G. Whitford. 2009. Monitoring Manual for Grassland, Shrubland and Savanna Ecosystems.
- Hobbs, R. J., and I. F. Huenneke. 1992. Disturbance, Diversity, and Invasion: Implications for Conservation. Volume 6, No. 3. Pp. 324-337.
- Hole, F.D. and G.A. Nielsen. 1968. Soil Genesis under Prairie. P 28-34. In Peter Schramm (ed.) Proc. Symp. On Prairie and Prairie Restoration. Spec. Pub. E. Knox College Field Station, Galesburg, IL.
- Idaho Department of Fish and Game and Nez Perce Tribe. 2012. 2011 Idaho wolf monitoring progress report. Idaho Department of Fish and Game, 600 South Walnut, Boise, Idaho; Nez Perce Tribe Wolf Recovery Project, P.O. Box 365, Lapwai, Idaho. 94 pp.
- Interagency Lynx Biology Team. 2013. Canada lynx conservation assessment and strategy. 3rd edition. USDA Forest Service, USDI Fish and Wildlife Service, USDI Bureau of Land Management, and USDI National Park Service. Forest Service Publication R1-13-19, Missoula, MT. 128 p.
- Ivan, J. 2011. Summary of Colorado Lynx in Montana. Spreadsheet from CDOW.
- Jacobs, J. S., and R. L. Sheley. 1999. Grass defoliation intensity, frequency, and season effects on spotted knapweed invasion. Journal of Range Management. 52: 626-632.
- Johnson, C. G. Jr. 1990. Proceedings – Symposium on Whitebark Pine Ecosystems: Ecology and Management of a High-Mountain Resource. Response of Vegetation to Livestock Impacts on Green Fescue Sites in the Whitebark Pine Ecosystem. Bozeman, MT. March 29-31, 1989.
- Johnson, M.G., E.R. Levine and J.S. Kern. 1994. Soil Organic Matter Distribution, Genesis, and Management to Reduce Greenhouse Gas Emissions. Water, Air and Soil Pollution 82: 593-615.
- Johnson-Groh, C. 1997. Field surveys for *Botrychium gallicomontanum* and phenology of *Botrychium mormo* in Minnesota. Unpubl. Rept.
- Johnson-Groh, C., Riedel, C., Schoessler, L., & Skogen, K. 2002. Belowground distribution and abundance of *Botrychium* gametophytes and juvenile sporophytes. American Fern Journal, 92(2): 80-92.
- Johnson-Groh, C. L., and D. R. Farrar. 1996. The effects of fire on prairie moonworts (*Botrychium* subgenus *Botrychium*). American Journal of Botany. 83:134. (Abstract).
- Kaya, C. M. 1990. Status Report on Fluvial Arctic Grayling (*Thymallus arcticus*) in Montana. Biology Department. Montana State University. Bozeman, MT.
- Keane, R.E. and R.A. Parsons. 2010. Restoring Whitebark Pine Forests of the Northern Rocky Mountains, USA. Ecological Restoration. 28(1): 56-70.
- Kendall, K.C., J.B. Stetz, J. Boulanger, A.C. Macleod, D. Paetkau, and G.C. White. 2009. Demography and genetic structure of a recovering grizzly bear population. Journal of Wildlife Management 73:3-17.

- Knight, R. R., and S. L. Judd. 1983. Grizzly bears that kill livestock. *International Conf. Bear Res. and Manage.* 5:186-190.
- Lacey, J. P. Husby and G. Handi. 1990. Observations on Spotted and Diffuse Knapweed Invasion into Ungrazed Bunchgrass Communities in Western Montana. *Rangelands.* 12(1): 30-32.
- Lackschewitz, K. 1991. *Vascular Plants of West-Central Montana-Identification Guidebook.* Intermountain Research Station. 648 p.
- Landsberg, J. and G. Crowley. 2004. Monitoring rangeland biodiversity: Plants as indicators. *Austral Ecology* 29, 59-77.
- Larson, Joel. 2012. Revised BLM Grazing Impacts Methodology (unpublished).
- Lenard, S., P. Hendricks, C. Currier and B. Maxell. 2005. Pygmy Rabbit Distribution in Neaberhead and Madison Counties. Montana Natural Heritage Program. Montana State Library. Helena, Montana. Unpublished.
- Lesica, P. 1989. Conservation status of CAREX PARRYANA ssp. IDAHOA in Montana. Unpublished report to Bureau of Land Management. Montana Natural Heritage Program, Helena. 32 p. plus appendices.
- Lesica, P. and S. V. Cooper. 1997. Presettlement vegetation of southern Beaverhead County, Montana. Unpublished report to the State Office, BLM and BDNF. Montana Natural Heritage Program, Helena, MT. 35 p.
- Lesica, P. 2012. *Manual of Montana Vascular Plants.* BRIT Press. Fort Worth, TX. 771 p.
- Lewis, R.S. 1998. Geologic Map of the Butte 1° x 2° Quadrangle, South-Western Montana. Montana Bureau of Mines and Geology Open File Report MBMG 363. Butte, Montana.
- Loft, E. R., J. W. Menke, J. G. Kie, and R. C. Bertram. 1987. Influence of Cattle Stocking Rate on the Structural Profile of Deer Hiding Cover. *The Journal of Wildlife Management.* 51(3):655-664.
- Lundquist, Jessica and Flint, Alan. Onset of Snowmelt and Streamflow in 2004 in the Western United States: How Shading May Affect Spring Streamflow Timing in a Warmer World. December, 2006.
- Mace, R. and L. Roberts. 2012. Northern Continental Divide Ecosystem Grizzly Bear Monitoring Team Annual Report, 2011. MFWP, 490 N. Meridian Road, Kalispell, MT 59901. Unpublished data.
- Maxell, B.A. 2000. Management of Montana's amphibians: a review of risk factors to population viability and accounts on the identification, distribution, taxonomy, habitat use, natural history and status and conservation of individual species. Prepared by University of Montana, Wildlife Biology Program, Missoula, MT for the USDA Forest Service, Northern Region, Missoula, MT. 163 p.
- Maxell, B.A. 2004. Report on amphibian and aquatic reptile inventories conducted on and around the Beaverhead-Deerlodge National Forest 2001-2003. Prepared by Bryce A Maxell, Wildlife Biology Program, University of Montana, Missoula, MT for USDA, Forest Service, Missoula & Dillon, MT and Montana Fish, Wildlife and Parks, Missoula, MT and USDI, Bureau of Land Management, Montana State Office, Billings, MT and Montana Department of Environmental Quality, Helena, MT. March 7, 2004. 78 p.

- McKelvey, K.S., J.J. Claar, G.W. McDaniel, and G. Hanvey. 1999 National Lynx Detection Protocol. Rocky Mountain Research Station USDA Forest Service, Missoula MT 59801.
- MFWP. 1980. Mount Haggin Interim Management Plan. MFWP. Butte, MT.
- MFWP. 2004. Montana State Elk Plan. Montana Fish, Wildlife and Parks. 1420 East Sixth Avenue, Helena, MT 59620.
- MFWP. 2006. Grizzly Bear Management Plan for Western Montana. Final Programmatic Environmental Impact Statement 2006-2016. MFWP. December 2006. Bozeman, Montana.
- MFWP. 2011. Draft environmental assessment for Mount Haggin WMA-south grazing lease renewal. On file at Butte, MT: MFWP, Region 3, Butte Field Office. 21 p.
- MFWP. 2013. Environmental Assessment for Westslope Cutthroat Trout Restoration in Two Small Streams in the Big Hole River Drainage. Montana Fish Wildlife and Parks, Butte.
- MNHP. 2009. Montana Natural Heritage Program. Montana Field Guide. Pygmy Rabbit — *Brachylagus idahoensis*. Montana Field Guide. Retrieved on August 18, 2009, from http://FieldGuide.mt.gov/detail_AMAEB04010.aspx.
- MNHP. 2011. GIS Data of sensitive plants location information acquired through the Montana Natural Heritage Program.
- MNHP. 2013. GIS Data of sensitive plants acquired through the Montana Natural Heritage Program.
- MNHP. 2013a. Montana Natural Heritage Program. Species of Concern List. Accessed on December 17, 2013, http://mtnhp.org/SpeciesOfConcern/output/NHP_Animal_SOC_2013-12-17_09-07-22.pdf.
- MNHP - California False-helleborne- *Veratrum californicum*. Montana Field Guide. Montana Natural Heritage Program. Retrieved on October 25, 2012, from http://FieldGuide.mt.gov/detail_PMLIL25020.aspx.
- MNHP - English Sundew- *Drosera anglica*. Montana Field Guide. Montana Natural Heritage Program. Retrieved on November 29, 2012, from http://FieldGuide.mt.gov/detail_PDDRO02010.aspx.
- MNHP - Hall's Rush - *Juncus hallii*. Montana Field Guide. Montana Natural Heritage Program. Retrieved on October 22, 2012, from http://FieldGuide.mt.gov/detail_PMJUN011E0.aspx.
- MNHP - Hiker's Gentian - *Gentianopsis simplex*. Montana Field Guide. Montana Natural Heritage Program. Retrieved on October 22, 2012, from http://FieldGuide.mt.gov/detail_PDGEN080A0.aspx.
- MNHP - Idaho Sedge- *Carex idahoensis*. Montana Field Guide. Montana Natural Heritage Program. Retrieved on November 29, 2012, from http://FieldGuide.mt.gov/detail_PMCYP036E0.aspx.
- MNHP - Lemhi Beardtongue- *Penstemon lemhiensis*. Montana Field Guide. Montana Natural Heritage Program. Retrieved on October 22, 2012, from http://FieldGuide.mt.gov/detail_PDSCR1L3N0.aspx.
- MNHP - Primrose Monkey-flower- *Mimulus primuloides*. Montana Field Guide. Montana Natural Heritage Program. Retrieved on October 22, 2012, from http://FieldGuide.mt.gov/detail_PDSCR1B270.aspx.
- MNHP - Wavy Moonwort- *Botrychium crenulatum*. Montana Field Guide. Montana Natural Heritage Program. Retrieved on October 22, 2012, from http://FieldGuide.mt.gov/detail_PPOPH010L0.aspx.

- MNHP - Whitebark Pine- *Pinus albicaulis*. Montana Field Guide. Montana Natural Heritage Program. Retrieved on October 22, 2012, from http://FieldGuide.mt.gov/detail_PGPIN04010.aspx.
- Moseley, R.K., M. Mancuso, and J. Hilty. 1990. Field Investigation and Status Survey of *Penstemon lemhiensis* in Idaho. Unpublished Report. Idaho Department of Fish and Game, Conservation Data Center, Boise. 17 p.
- MTPIF. 2000. Partners in Flight. Bird Conservation Plan Montana. Version 1.1. April 2000. Montana Partners in Flight. American Bird Conservancy. Kalispell, Montana. Unpublished.
- MTSGWG. 2005. Management Plan and Conservation Strategies for Sage grouse in Montana. Helena: Montana Sage Grouse Work Group.
- Mueggler, W.F. and W.L. Stewart. 1980. Grassland and shrubland habitat types of western Montana. Gen. Tech. Rep. INT-66, Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Research Station. 154 p.
- Munn, L.C., G.A. Nielsen and W.F. Mueggler. 1978. Relationships of Soils to Mountain and Foothill Range Habitat Types and Production in Western Montana. SOIL SCI. SOC. AM. J., 42: 135-139.
- National Agricultural Statistics Service. 2013. Beaverhead County Hay. http://www.nass.usda.gov/Quick_Stats/Lite/ Accessed 12/17/2013.
- NatureServe Explorer – An Online encyclopedia of Life. Pygmy Rabbit account available at: <http://www.natureserve.org/explorer/> Accessed 12/17/2013.
- Northern Economics 2002. Social Assessment of the Beaverhead-Deer Lodge National Forest.
- Fletcher, 1960: *in* Northern Economics 2002.
- Harrison 1957; *in* Northern Economics 2002.
- Malone, Roeder, and Lang, 1991: *in* Northern Economics 2002.
- Taylor 2003; *in* Northern Economics 2002.
- O'Brien, R. A., C.M Johnson, A.M. Wilson, and V.C. Elsbernd. 2003. Indicators of rangeland health and functionality in the Intermountain West. Gen. Tech. Rep. RMRS-GTR-104, Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 13 p.
- Ortega, Y. K. and D. E. Pearson. 2005. Weak vs. Strong Invaders of Natural Plant Communities: Assessing Invasibility and Impact. Ecological Applications. Vol. 15, No. 2. Pp. 651-661.
- Packer, P.E. 1963. Soil stability requirement for the Gallatin elk winter range. J. Wildlife Manage. 27:401-410.
- Panter, K. E., R. F. Keeler, L. F. James, and T. D. Bunch. 1992. Impact of Plant Toxins on Fetal and Neonatal Development: A Review. Journal of Range Management. Vol. 45, No. 1. Pp. 52-57.
- Pellant, M., P. Shaver, D.A. Pyke, and J.E. Herrick. 2005. Interpreting indicators of rangeland health, version 4. Technical Reference 1734-6. U.S. Department of the Interior, Bureau of Land Management, National Science and Technology Center, Denver, CO. BLM/WE/ST-00/001+1734/REV05. 122 p.
- Pers. Com. Boccadori. 2013. Email between Jenna Roose and MTFWP Biologist Vanna Boccadori. 2/6/2013.

- Pers. Com. Fager. 2013. Email between Jenna Roose and MTFWP Biologist Craig Fager. 2/4/2013.
- Pers. Com. Jonkel. 2012. Email between Jenna Casey and MTWFP Biologist Jamie Jonkel. 4/10/2012.
- Peterson, D. P., B.E. Rieman, M.K. Young, and J.A. Brammer. 2010. Modeling Predicts that Redd Trampling by Cattle Contribute to Population Declines of Native Trout. *Ecological Applications* 20(4): 954-966.
- Pfankuch, Dale J. 1975. *Stream Reach Inventory and Channel Stability Evaluation*. USDA Forest Service, Norther Region, Missoula, MT. 29 p.
- Pilgrim, K and M. Schwartz. 2013. Beaverhead-Deerlodge Forest Lynx (*Lynx canadensis*) Survey Samples and Results. USFS Rocky Mountain Research Station, February 22, 2013.
- Porco, M. 2009. Canada Lynx Surveys on the BDNF, May 2009 – June 2009. Wild Things Unlimited.
- Profitt, K., M., J. A. Gude, K. L. Hamlin and M. A. Messer. 2013. Effects of Hunter Access and Habitat Security on Elk Habitat Selection in Landscapes with a Public and Private Land Matrix. *The Journal of Wildlife Management*. 77(3): 514-524.
- Rauscher, Ryan. 1997. Status and distribution of the pygmy rabbit in Montana. MFWP, non-game program. Unpublished report, 19 p. plus appendices.
- Reichel, J. D. and J. G. Corn. 1997. Northern bog lemmings: survey, population parameters, and population analysis. Unpublished report to the Kootenai National Forest. Montana Natural Heritage Program, Helena, MT. 27 p.
- Reichel, J., and D. Flath. 1995. Identification of Montana's amphibians and reptiles. *Montana Outdoors*. May/June 1995.
- Reudiger, B., J. Claar, S. Gniadek, B. Holt. L. Lewis, S. Mighton, B. Naney, G. Patton, T. Rinaldi, J. Trick, A. Vandehey, F. Wahl, N. Warren, D. Wenger, and A. Williamson. 2000. Canada Lynx Conservation Assessment and Strategy. USDA Forest Service, USDI Fish and Wildlife Service, USDI BLM, and USDI National Park Service. Forest Service Publication #R1-00-53, Missoula, MT. 142 p.
- Robichaud, P.R., J.L. Beyers and D.G. Neary. 2000. Evaluating the effectiveness of postfire rehabilitation treatments. USDA, USFS, Gen. Tech. Rep. RMRS-GTR-63. 84 p.
- Rosgen, Dave L. 1994. *A Classification of Natural Rivers*. *Catena*. 22(3): 3-33.
- Rosgen, Dave L. 1996. *Field Survey Procedures for Characterization of River Morphology*. Field Methodology. 8 p.
- Rosgen, D. 1996. Applied River Morphology. Wildland Hydrology, Pagosa Springs, CO.
- Rosgen, David L. 1999. *A Stream Channel Stability Assessment Methodology*. Research Paper. 11 p.
- Rosgen, Dave L. 2001. *Applied River Morphology, Second Edition*. Printed Median Companies, Minneapolis, Minnesota. 368 p.
- Ross, D.A., T.C. Esque, R.A. Fridell, P. Hovingh. 1995. Historical distribution, current status, and a range extension of *Bufo boreas* in Utah. *Herpetological Review* 26(4): 187-189.
- Rowland, M.M. M.J. Wisdom, B.K. Johnson and J.G. Kie. 2000. Elk Distribution and Modeling in Relation to Roads. *Journal of Wildlife Management*. 64(3): 672-684.

- Ruppel, E.T., J.M. O'Neill and D.A. Lopez. 1993. Geologic Map of the Dillon 1° x 2° Quadrangle, Idaho and Montana. Miscellaneous Investigation Series. Map 1-1803-H. U.S. Geological Survey.
- Ruppert, D.A. and P.S. Fletcher. 2010. Beaverhead-Deerlodge National Forest Soil Interpretation Methodology: Erosion, Mass Wasting, Rutting and Compaction Risk Ratings. On file at Butte Ranger District/SO Annex Butte, Montana.
- Schuman, G.E., J.D. Reeder, J.T. Manley, R.H. Hart, and W.A. Manley. 1999. Impact of grazing management on the carbon and nitrogen balance of a mixed-grass rangeland. *Ecol. Appl.* 9:65–71.
- Schwandt, J. 2006. Whitebark Pine In Peril: A Case for Restoration. USDA Forest Service: R1-06-28.
- Schwartz, C.C., S.D. Miller, and M.A. Haroldson. 2003. Grizzly/brown bear. Pages 556-586 in G. Feldhamer, B. Thompson, and J. Chapman, editors. *Wild mammals of North America: biology, management, and conservation*. Johns Hopkins University Press, Baltimore, MD, USA.
- Schwartz, C.C., M.A. Haroldson, K.A. Gunther, and D. Moody. 2006. Distribution of grizzly bears in the Greater Yellowstone Ecosystem in 2004. *Ursus* 17:63-66.
- Sheley, R. L., J. S. Jacobs, and M. F. Carpinelli. 1998. Distribution, Biology, and Management of Diffuse knapweed (*Centaurea diffusa*) and Spotted Knapweed (*Centaurea maculosa*). *Weed technology*. Vol. 12: 353-362.
- Shelly, J. S. 1990. Status Review Update and Establishment of Demographic Monitoring Studies: *Penstemon lemhiensis*. Report to the Beaverhead-Deerlodge and Bitterroot National Forests, Montana. 53 pp. plus appendix.
- Shepard, B. B., B. E. May, and W. Urie. 2005. Status and conservation of westslope cutthroat trout within the Western United States. *North American Journal of Fisheries Management* 25: 1426- 1440.
- Squires, J.R, T.J. Ulizio and L.F. Ruggerio. 2003. Carnivore Studies in the Pioneer Mountains and Adjacent Mountain Ranges of Southwest Montana. Final Report Dec 31, 2003. Rocky Mountain Research Station, Agreement No. 00-A-17-0031.
- Squires, J.R., N.J. Decesare, J.A. Kolbe and L.F. Ruggiero. 2010. Seasonal Resource Selection of Canada Lynx in Managed Forests of the Northern Rocky Mountains. *Journal of Wildlife Management*. 74(8): 1648-1660.
- Stagliano, David, M. 2010. Freshwater mussels in Montana: Comprehensive results from 3 years of SWG funded surveys. Report to MFWP.
- Stiver, S. J., Rinkes, E. T., & Naugle, D. E. (2010). Sage-grouse Habitat Assessment Framework. Boise, Idaho: U.S. Bureau of Land Management, Idaho State Office.
- Stoddart, L. A., A.D. Smith, and T.W. Box. 1975. Range Management. McGraw-Hill series in forest resources. McGraw-Hill Book Company, New York, NY. 532 p.
- Stucki, D. S., T. J. Rodhouse, J. W. Lyon, L. K. Garrett. 2013. Natural Resource Conservation in a Cultural Park: Evaluating the Importance of Big Hole National Battlefield to the Endemic Lemhi Penstemon (*Penstemon lemhiensis*). *Natural Areas Journal*. 33: 50-58.
- Tidwell, T. 2009. Occupied and Unoccupied Lynx Habitat. Letter dated June 23, 2009. USDA Forest Service, Region 1, Missoula, MT.

- Tomback, Diana F., Stephen F. Arno, and Robert E. Keane. "The compelling case for management intervention." *Whitebark pine communities: ecology and restoration*. Island Press, Washington, DC (2001): 3-25.
- USDA. 1997. Departmental Regulation No. 5600-002, Environmental Justice, December 15, 1997, DR5600-002, <http://www.ocio.usda.gov/sites/default/files/docs/2012/DR5600-002.pdf>.
- USDA. 2002. National Agricultural Statistical Service, January 2002 Inventory. <http://www.agcensus.usda.gov/Publications/2002/index.php>.
- USDA. 2007. National Agricultural Statistical Service, January 2007 Inventory. <http://www.agcensus.usda.gov/Publications/2002/index.php>.
- USDA. 2007. 2007 Census of Agriculture. Table 62 - Summary by NAICS Industry. http://www.agcensus.usda.gov/Publications/2007/Full_Report/Volume_1,_Chapter_1_US/.
- USDA, Forest Service. 1988. Fences. Pub. 2400-Range, 8824 2803. [Location of publisher unknown]: USDI, BLM; USDA, Forest Service, Missoula Technology and Development Center. 210 p. Available from: Society for Range Management, 1839 York Street, Denver, CO 80206.
- USDA Forest Service. 1995. Decision Notice and Finding of No Significant Impact for the Inland Native Fish Strategy Interim Strategies for Managing Fish-Producing watersheds in Eastern Oregon and Washington, Idaho, Western Montana, and Portions of Nevada. USDA, Forest Service, Northern Region, Missoula, MT and Intermountain Region, Ogden, UT and Pacific Northwest Region, Portland, OR. 39 p.
- USDA, Forest Service. 1995a. Landscape Aesthetics: A Handbook for Scenery Management. Agriculture Handbook No. 701. Washington D.C.
- USDA Forest Service. 1995b. Programmatic Agreement Among the U.S. Department of Agriculture, Forest Service Northern Region (Montana), the Advisory Council on Historic Preservation and, the Montana State Historic Preservation Officer Regarding Cultural Resources Management on National Forests in the State of Montana. USDA, Forest Service, Beaverhead national Forest, Dillon, MT, May, 1995.
- USDA Forest Service. 1999. Forest Service Manual, R-1 Supplement 2500-99-1. Soil Management, Soil Quality Monitoring. Missoula, MT. 6 p.
- USDA, Forest Service. 2002. Final environmental impact statement and record of decision for Beaverhead-Deerlodge National Forest noxious weed control. On file at Dillon, MT: USDA, Forest Service, BDNF.
- USDA, Forest Service. 2003. Rangeland suitability for livestock grazing at the Forest Plan level and standards for NEPA display. Misc. pub. on file at Dillon, MT: USDA, Forest Service, BDNF. 16 p.
- USDA FOREST SERVICE. 2004. Memorandum of Understanding between USDA Forest Service and the USDA Animal and Plant Health Inspection Service for Wildlife Damage Management Activities on National Forest System Lands. FS Agreement No. 04-MU-11132422-061.
- USDA, Forest Service. 2005. Forest Service Manual 2600 - Wildlife, Fish, and Sensitive Plant Habitat Management; Chapter 2670 - Threatened, Endangered and Sensitive Plants and Animals. Amendment No.: 2600-2005-1. 22 p.

- USDA Forest Service. 2007. Northern Rockies Lynx Management Direction Record of Decision. USDA Forest Service, National Forests in Montana and parts of Idaho, Wyoming and Utah. 45 pp + references. Includes Figure 1-1 to FEIS showing linkage zones.
- USDA Forest Service. 2008. FSM 2300 Amendment– Recreation, Heritage, and Volunteer resources Chapter 2360 – Heritage Program Management. Forest Service National Headquarters, Washington, D.C.
- USDA Forest Service. 2009. Beaverhead-Deerlodge National Forest – Land and Resource Management Plan. Report on File Beaverhead-Deerlodge National Forest. Dillon, Montana. January, 2009 (including revisions).
- USDA, Forest Service. 2010. Livestock grazing effectiveness monitoring for riparian areas on the Beaverhead-Deerlodge National Forest: Vegetation parameters sampling protocol. Misc. Pub. On file at Dillon, MT: USDA, Forest Service, BDNF. 9 p.
- USDA, Forest Service. 2010a. Executive Summary: Status and Conservation of Whitebark Pine. USDA Forest Service, Region 1.
- USDA, Forest Service. 2010b. Beaverhead-Deerlodge NF Whitebark Pine Monitoring. Unpublished.
- USDA Forest Service. 2011. Sensitive Species List. Region One. February 2011. Unpublished.
- USDA Forest Service. 2012. Interim Conservation Recommendations for Greater Sage-Grouse and Greater Sage-Grouse Habitat, USFS Regions 1, 2, and 4. Washington, DC: USFS Washington Office. Unpublished.
- USDA Forest Service. 2012a. Seymour, Sullivan, and Deep Creeks Watershed Assessment. USDA, Forest Service. Beaverhead-Deerlodge National Forest, Dillon, MT.
- USDA Forest Service. 2012b. Beaverhead-Deerlodge National Forest, Integrated Riparian Monitoring, Vegetation Report, Big Hole Watershed, May 2012. 59 p.
- USDA Forest Service. 2013. Canada Lynx – Recent Information and Papers: A Review in Relation to the Northern Rockies Lynx Management Direction. September 19, 2013. Region 1 Regional Office. Missoula, MT. Unpublished.
- USDA Forest Service and USDI Fish and Wildlife Service. 2008. Memorandum of Understanding between the USDA Forest Service and the US Fish and Wildlife Service to promote the conservation of migratory birds. FS Agreement #08-MU-1113-2400-264. Washington D.C.
- US Department of Commerce. 2012. Census Bureau, American Community Survey Office. Washington, D.C. <https://www.census.gov/acs/www/>.
- US Department of Commerce. 2012a. Bureau of Economic Analysis, REIS 2012, Table 25N, <http://www.bea.gov/regional/>.
- US Department of Commerce. 2012b. Bureau of Economic Analysis, REIS 2012, Table CA25, <http://www.bea.gov/regional/>.
- US Department of Commerce. 2012c. Bureau of Economic Analysis, REIS 2012, Table CA30, <http://www.bea.gov/regional/>.
- U.S. Department of Commerce. 2012d. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Tables CA05 & CA05N, <http://www.bea.gov/regional/>.

- U.S. Department of Interior. 2009. Payments in Lieu of Taxes (PILT), Washington D.C.; U.S. Department of Agriculture. 2009. Forest Service, Washington, D.C.
- USDI, BLM. 1996. Sampling vegetation attributes. Interagency Technical Reference, Denver CO: U.S. Department of the Interior, Bureau of Land Management, National Applied Resource Sciences Center. 163 p.
- USDI, BLM. 2005. Interpreting indicators of rangeland health, version 4. Technical Reference 1734-6, Denver CO: U.S. Department of the Interior, Bureau of Land Management Service Center. 118 p.
- USDI, BLM. 2006. Record of Decision and Approved Dillon Resource Management Plan. Dillon Field Office. Dillon, MT.
- USDI, BLM. 2009. Record of Decision and Approved Butte Resource Management Plan. Butte Field Office. Butte, MT.
- USDI, BLM. 2009a. Upper Big Hole watershed assessment report. Dillon, MT: U.S. Department of the Interior, Bureau of Land Management, Dillon Field Office. 55 p.
- USDI Fish and Wildlife Service. 1993. Grizzly Bear Recovery Plan. Missoula, MT USA. 181 p.
- USDI Fish and Wildlife Service. 2007. Biological Opinion on the Effects of the Northern Rockies Lynx Amendment on the Distinct Population Segment of Canada Lynx in the Contiguous United States. Unpublished. Montana Field Office, Helena Montana. 85 p.
- USDI Fish and Wildlife Service. 2008. Birds of Conservation Concern. U.S. Fish and Wildlife Service, Division of Migratory Bird Management. Arlington, Virginia. 26 p.
- USDI Fish and Wildlife Service. 2009. Endangered and Threatened Wildlife and Plants; Final Rule to Identify the Northern Rocky Mountain Population of Gray Wolf as a Distinct Population Segment and to Revise the List of Endangered and Threatened Wildlife. April 2, 2009. Federal Register 74, 15123-15188.
- USDI Fish and Wildlife Service. 2010. 12-Month Finding on a Petition to List the Pygmy Rabbit as Endangered or Threatened. Federal Register September 30, 2010. Volume 75; Number 189; 60516-60561.
- USDI Fish and Wildlife Service. 2011. Grizzly Bear (*Ursus arctos horribilis*), 5 Year Review: Summary and Evaluation. August 2011. USDI Fish and Wildlife Service. Grizzly Bear Recovery Office. Missoula, Montana.
- USDI, Fish and Wildlife Service. 2011a. Endangered and threatened wildlife and plants; 12-month finding on a petition to list *Pinus albicaulis* as Endangered or Threatened with critical habitat. Federal Register, 76(138), 42631-42654.
- USDI, Fish and Wildlife Service. 2011b. Candidate Species: Section 4 of the Endangered Species Act. http://www.fws.gov/endangered/esa-library/pdf/candidate_species.pdf.
- USDI Fish and Wildlife Service. 2013a. Greater Sage-grouse (*Centrocercus urophasianus*) Conservation Objectives: Final Report. Denver, CO: US Fish and Wildlife Service.
- USDI Fish and Wildlife Service. 2013b. Endangered Species Act Section 7 Consultation Supplement to the Biological Opinion (2010) on the Effects of the 2009 Revision of the Beaverhead-Deerlodge National Forest Land and Resource Management Plan on Grizzly Bears Beaverhead-Deerlodge National Forest. Fish and Wildlife Service, Ecological Services, Montana Field Office, Helena, MT.

- USDI Fish and Wildlife Service. 2014. Endangered and Threatened Wildlife and Plants; Revised Designation of Critical Habitat for the Contiguous United States Distinct Population Segment of the Canada Lynx and Revised Distinct Population Segment Boundary; Final Rule. Federal Register September 12, 2014. Volume 79; Number 177; 54782-54846.
- USDI Fish and Wildlife Service. 2015. Threatened, Endangered and Candidate Species for the Beaverhead-Deerlodge National Forest. 7/23/2015. Fish and Wildlife Service, Ecological Services, Montana Field Office, Helena, MT.
- USDI Fish and Wildlife Service, Idaho Department of Fish and Game, Montana Fish, Wildlife & Parks, Nez Perce Tribe, National Park Service, Blackfeet Nation, Confederated Salish and Kootenai Tribes, Wind River Tribes, Washington Department of Fish and Wildlife, Oregon Department of Fish and Wildlife, Utah Department of Natural Resources, and USDA Wildlife Services. 2012. Northern Rocky Mountain Wolf Recovery Program 2012 Interagency Annual Report. M.D. Jimenez and S.A. Becker, eds. USFWS, Ecological Services, 585 Shepard Way, Helena, Montana, 59601.
- US Department of Labor. 2012. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Washington, D.C, <http://www.bls.gov/cew/>.
- US EPA. 2010. Action Development Process: Interim Guide on Considering Environmental Justice during the Development of an Action, p. 3, <http://www.epa.gov/environmentaljustice/resources/policy/considering-ej-in-rulemaking-guide-07-2010.pdf>.
- US EPA. 2013. Environmental Justice Webpage. www.epa.gov/environmentaljustice/ Accessed July 10, 2013.
- Vanderhorst, J. 1997. Conservation Assessment of Sensitive Moonworts (Ophioglossaceae: *Botrychium* subgenus *Botrychium*) on the Kootenai National Forest. Report to the Kootenai National Forest, Montana. 83 pp. plus appendix.
- van Manen, F. T., M. A. Haroldson and K. West, editors. 2012. Yellowstone grizzly bear investigations: annual report of the Interagency Grizzly Bear Study Team, 2011. U. S. Geological Survey, Bozeman, Montana, USA.
- Vannote, R.L. and G.W. Minshall. 1982. Fluvial processes and local lithology controlling abundance, structure, and composition of mussel beds. *Proceedings of the National Academy of Science* 79:4103-4107.
- Vavra, M., C.G. Parks, M.J. Wisdom. 2007. Biodiversity, exotic plant species, and herbivory: The good, the bad and the ungulate. *Forest Ecology and Management* 246. 66-72.
- WAFWA (Western Association of Fish and Wildlife Agencies). 2008. Greater sage-grouse population trends: An analysis of lek count databases 1965-2007. Sage- and Columbian Sharp-tailed grouse Technical Committee, unpublished report. 126 p.
- WAFWA. 2008a. Memorandum of Understanding among Western association of fish and wildlife agencies and U.S.D.A., Forest Service and U.S.D.I, Bureau of Land Management and U.S.D.I., Fish and Wildlife Service and U.S.D.I., Geological Survey and U.S.D.A. Natural Resources. Western Association of Fish and Wildlife Agencies.
- Willard, E. E. 1990. Proceedings – Symposium on Whitebark Pine Ecosystems: Ecology and Management of a High-Mountain Resource. Use and Impact of Domestic livestock in Whitebark Pine Forests. Bozeman, MT. March 29-31, 1989.

- Winthers, E.; Fallon, D.; Haglund, J.; DeMeo, T.; Nowacki, G.; Tart, D.; Ferwerda, M.; Robertson, G.; Gallegos, A.; Rorick, A.; Cleland, D. T.; Robbie, W. 2005. Terrestrial Ecological Unit Inventory technical guide. Washington, DC: U.S. Department of Agriculture, Forest Service, Washington Office, Ecosystem Management Coordination Staff. 245 p.
- Wood, M.K., and W.H. Blackburn. 1984. Vegetation and soil responses to cattle grazing systems in the Texas rolling plains. *J. Range Manage.* 37:303-308.
- Zika, P.F., R. Brainerd, and B. Newhouse. 1995. Grapeferns and Moonworts (Botrychium, Ophioglossaceae) in the Columbia Basin. A Report submitted to the Eastside Ecosystem Management Project, US Forest Service, Walla Walla, Washington. 116 p.

Glossary

Aquatic Nuisance Species: non-indigenous plant or animal species that threaten the diversity or abundance of native species, the ecological stability of infested waters, or commercial, agricultural, aqua-cultural, or recreational activities dependent on such waters.

Allotment (Grazing or Range): An area of land designated for the use of a certain number and kind of livestock for a prescribed period of time. It is the basic land unit used in the management of livestock on National Forest System lands and associated lands administered by the Forest Service.

Allotment Management Plan (AMP): A document applying to management of rangeland ecosystems and livestock operations on public lands prescribing: (1) the manner in and extent to which livestock operations will be conducted in order to meet ecosystems health, multiple use, economic, and other objectives; (2) describing range improvements to be installed and maintained; and (3) containing such other provisions relating to livestock grazing and other objectives found by the Secretary of Agriculture to be consistent with the provisions of the Federal Land Policy and Management Act. An AMP integrates resource objectives, standards, guidelines, and management requirements for soil and water for watershed protection, wildlife and fisheries, timber, and other resources on lands within a range allotment.

Allowable Use Level (AUL): A predetermined amount of current forage production that is to be removed and/or soil disturbance that is acceptable under a given set of circumstances in order to accelerate range improvement. Degree of use will vary depending upon range type, range condition and trend, season of use, and physiological needs of various plant species. Allowable use is also often defined as the degree of use estimated to be proper until proper use is known.

Areas of consistent snow compaction – An area of consistent snow compaction is an area of land or water that during winter is generally covered with snow and gets enough human use that individual tracks are indistinguishable. In such places, compacted snow is evident most of the time, except immediately after (within 48 hours) snowfall. These can be areas or linear routes, and are generally found in near snowmobile or cross-country ski routes, in adjacent openings, parks and meadows, near ski huts or plowed roads, or in winter parking areas. Areas of consistent snow compaction will be determined based on the area or miles used in 1998 to 2000.

Broad scale assessment – A broad scale assessment is a synthesis of current scientific knowledge, including a description of uncertainties and assumptions, to provide an understanding of past and present conditions and future trends, and a characterization of the ecological, social and economic components of an area. (LCAS)

Candidate species – Candidate species are plants and animals for which the U.S. Fish and Wildlife Service has sufficient information on their biological status and threats to propose them as endangered or threatened under the Endangered Species Act, but for which development of a proposed listing regulation is precluded by other higher priority listing activities (USDI Fish and Wildlife Service 2011b).

Canopy Cover: The percentage of ground covered by a vertical projection of the outermost perimeter of the natural spread of foliage of plants. Small openings within the canopy are included.

Carr – Deciduous woodland or shrub land occurring on permanently wet, organic soil. (LCAS)

Climax Vegetation or Community: A final or steady-state plant community which is self-perpetuating and in dynamic equilibrium with its environment. It is the presumed end point in succession.

Color: The property of reflecting light of a particular wavelength that enables the eye to differentiate otherwise indistinguishable objects. A hue (red, green, blue, yellow, and so on), as contrasted with a value (black, white, or gray).

Contrast: Diversity or distinction of adjacent parts. Effect of striking differences in form, line, color, or texture of a landscape.

Course woody debris – Any piece(s) of dead woody material, e.g., dead boles, limbs, and large root masses on the ground or in streams. (LCAS)

Cover Type: A taxonomic unit of vegetation classification referencing existing vegetation. Cover type is a broad taxon based on existing plant species that dominate, usually within the tallest layer. Examples include lodgepole pine, aspen, willow-sedge, sagebrush-grassland, etc.

Cultural Element: Attributes in a human-altered landscape; scenically positive cultural elements, most of which have historical backgrounds or nostalgic connotations. Examples include split-rail fences, stone walls, barns, orchards, hedgerows, and cabins.

Daylight thinning – Daylight thinning is a form of precommercial thinning that removes the trees and brush inside a given radius around a tree.

Deferred Grazing: A delay in the season of in one or more pastures to permit desired growth or regrowth of forage plants, or to produce ripe seeds prior to being grazed.

Denning habitat (lynx) – Denning habitat is the environment lynx use when giving birth and rearing kittens until they are mobile. The most common component is large amounts of coarse woody debris to provide escape and thermal cover for kittens. Denning habitat must be within daily travel distance of winter snowshoe hare habitat – the typical maximum daily distance for females is about three to six miles. Denning habitat includes mature and old growth forests with plenty of coarse woody debris. It can also include young regenerating forests with piles of coarse woody debris, or areas where down trees are jack-strawed.

Designated over-the-snow routes – Designated over-the-snow routes are routes managed under permit or agreement or by the agency, where use is encouraged, either by on-the-ground marking or by publication in brochures, recreation opportunity guides or maps (other than travel maps) or in electronic media produced or approved by the agency. The routes identified in outfitter and guide permits are designated by definition; groomed routes also are designated by definition. The

determination of baseline snow compaction will be based on the miles of designated over-the-snow routes authorized, promoted or encouraged in 1998 to 2000.

Designated route – A designated route is a road or trail that has been identified as open for specified travel use.

Desired Condition Status: The relative degree to which kinds, proportions, and amounts of vegetation in the present plant community resemble the desired plant community chosen for an ecological site.

Developed recreation – Developed recreation requires facilities that result in concentrated use. For example, skiing requires lifts, parking lots, buildings and roads; campgrounds require roads, picnic tables and toilet facilities.

Deviation: Departure from existing landscape character or from landscape character goals. Deviation from existing landscape character can be positive, negative, or have no effect.

Distance Zones: Landscape areas denoted by specified distances from the observer. Used as a frame of reference in which to discuss landscape attributes or the scenic effect of human activities in a landscape. See zones described below.

Immediate Foreground – The detailed feature landscape found within the first few hundred feet of the observer, generally, from the observer to 300 feet away. This distance zone is normally used in project level planning, not broad scale planning.

Foreground – Detailed landscape generally found from the observer to ½ mile away. See also immediate foreground.

Middleground – The zone between the foreground and the background in a landscape. The area located from ½ mile to 4 miles from the observer.

Background – The distant part of a landscape. The landscape area located from 4 miles to infinity from the viewer.

Ecological Condition Status: The degree of similarity between the existing vegetation and existing soil conditions compared to the potential natural community and the desired soil condition on a site.

Endangered species – Any species in danger of extinction throughout all or a significant portion of its range. This does not include a species of the Class Insecta determined by the Secretary to be a pest whose protection under the provisions of the Endangered Species Act of 1973, as amended, would present an overwhelming and overriding risk to humans (FSM 2670.5)

Expected: What constituents anticipate encountering in the national forests.

Expected Image: A mental picture that a person expects to see in a national forest.

Extended Rest: A decision not to authorize grazing in a specified area in order to implement other management actions, such as restoration; timing of such actions is tied to specific resource objectives, such as recovery after disturbance, natural or manmade. Management tool other than a change in grazing system.

Extent of Concern: The portion of a travel route for which a Scenic Concern Level has been assigned. The extent of concern for sites is not listed, but can be described as the perimeter of developed or heavily used areas. The extent of concern provides the general location for project analysis viewpoints and visibility mapping.

Fire use – Fire use is the combination of wildland fire use and using prescribed fire to meet resource objectives. (NIFC) Wildland fire use is the management of naturally ignited wildland fires to accomplish resource management objectives in areas that have a fire management plan. The use of the term wildland fire use replaces the term prescribed natural fire. (Wildland and Prescribed Fire Management Policy, August 1998)

Forage: (n) Browse and herbage that is available and may provide food for grazing animals or be harvested for feeding.

Forb: Any herbaceous plant other than those in the Poaceae (grass), Cyperaceae (sedge), and Juncaceae (rush) families.

Forest highway – A forest highway is a forest road under the jurisdiction of, and maintained by, a public authority and open to public travel (USC: Title 23, Section 101(a)), designated by an agreement with the FS, state transportation agency and Federal Highway Administration.

Form: Structure, mass, or shape of a landscape or of an object. Landscape form is often defined by edges or outlines of landforms, rockforms, vegetation patterns, or waterforms, or the enclosed spaces created by these attributes.

Fuel treatment – A fuel treatment is a management action that reduces the threat of ignition and fire intensity or rate of spread, or is used to restore fire-adapted ecosystems.

Goal – A goal is a broad description of what an agency is trying to achieve, found in a land management plan. (LCAS)

Graminoid – A grass-like plant with narrow parallel veins in its leaves. Graminoids include species from the true grass family Poaceae, as well as the sedge (Cyperaceae) and rush (Juncaceae) families.

Grass: A member of the family Poaceae (Gramineae).

Grassland: Lands on which the vegetation is dominated by grasses, grass-like plants, and/or forbs. These areas are typically free of trees, shrubs, or other woody vegetation.

Grass-like Plant: A plant of the Cyperaceae (sedge) or Juncaceae (rush) families that vegetatively resembles a true grass of the Gramineae family.

Grazing System or Strategy: A specialization of grazing management that defines systematically recurring periods of grazing, deferment, or rest for one or more pastures or management units. Common grazing systems include deferred grazing, deferred-rotation grazing, and rest-rotation grazing.

Ground Cover: The percentage of material, other than bare ground, covering the soil surface. It may include vegetation (basal and canopy), litter, standing dead vegetation, gravel/rock, and a visible biological crust such as lichen and mosses. Ground cover plus bare ground will total 100 percent.

Guideline – A guideline is a particular management action that should be used to meet an objective found in a land management plan. The rationale for deviations may be documented, but amending the plan is not required. (LCAS modified)

Habitat connectivity (lynx) – Habitat connectivity consists of an adequate amount of vegetation cover arranged in a way that allows lynx to move around. Narrow forested mountain ridges or shrub-steppe plateaus may serve as a link between more extensive areas of lynx habitat; wooded riparian areas may provide travel cover across open valley floors. (LCAS)

Habitat Type: A land area that supports, or has the potential of supporting, the same climax vegetation type. Each habitat type represents a relatively narrow segment of environmental variation having a certain potential for vegetation development. Therefore, habitat type is a vegetation-based ecological site classification that uses the plant community as an indicator of integrated environmental factors as they affect species reproduction and plant community development.

Head Month (HM): One month's use and occupancy of range by one weaned or adult cow, bull, steer, heifer, horse, burro, mule, or five sheep or goats.

HFRA (Healthy Forests Restoration Act) - Public Law 108-148, passed in December 2003. The HFRA provides statutory processes for hazardous fuel reduction projects on certain types of at-risk National Forest System and Bureau of Land Management lands. It also provides other authorities and direction to help reduce hazardous fuel and restore healthy forest and rangeland conditions on lands of all ownerships. (Modified from Forest Service HFRA web site.)

Highway – The word highway includes all roads that are part of the National Highway System. (23 CFR 470.107(b))

Horizontal cover – Horizontal cover is the visual obscurity or cover provided by habitat structures that extend to the ground or snow surface primarily provided by tree stems and tree boughs, but also includes herbaceous vegetation, snow, and landscape topography. Horizontal cover was measured by John Squires et al. (pers. com.) in Northwestern Montana according to the following methodology:

“A canvas cover-board (2 m x 0.5 m) was erected 10 m from plot center in 4 directions (forward track, back track, and at 2, 90° angles) was read to directly measure horizontal cover. The cover board was divided into 4, 0.5 meter blocks and each block was further dividend into quarters. At each reading, technicians estimated horizontal cover by 10% class at each of the 4 heights; these 4 estimates were then averaged for an overall estimate of that reading.” (According to Squires via pers. com., cover measured during the summer period averaged approximately 65% while at den sites it was measured at roughly 85%. During the winter period cover was measured at 45% while at winter kill sites it was slightly greater than 50%.)

INFISH- Inland native fish strategy. This strategy was developed to provide interim direction to protect habitat and populations of native resident fish until longer-term conservation strategies such as the Upper Columbia River Basin and federal recovery plans replaced it.

Invasive Plant: Invasive plants include noxious weeds and other nonnative plants that have been introduced into an environment in which they did not evolve, and thus usually have no natural enemies to limit their reproduction and spread; and produce a significant change in terms of plant species composition, structure, or ecosystem function.

Isolated mountain range – Isolated mountain ranges are small mountains cut off from other mountains and surrounded by flatlands. On the east side of the Rockies, they are used for analysis instead of sub-basins. Examples are the Little Belts in Montana and the Bighorns in Wyoming.

Key Species: Forage species whose use serves as an indicator to the degree of use of associated species. In many cases, key species include indicator species, and species traditionally referenced as decreaseers, increaseers, desirables, or intermediates.

Key Watershed: One or both of the following types of watershed designations

Fish Key Watersheds: Watersheds selected for focusing of federal funds and personnel for the purpose of protecting, restoring, or maintaining viability of Threatened, Endangered and Sensitive aquatic species.

Restoration Key Watersheds: Watersheds selected for focusing of federal funds and personnel for the purpose of accelerating improvements in water quality and watershed conditions.

Landscape Character: Particular attributes, qualities, and traits of a landscape that give it an image and make it identifiable or unique.

Landscape Visibility: Accessibility of the landscape to viewers, referring to one's ability to see and perceive landscapes.

LAU (Lynx Analysis Unit) – An LAU is an area of at least the size used by an individual lynx, from about 25 to 50 square miles (LCAS). An LAU is a unit for which the effects of a project would be analyzed; its boundaries should remain constant.

Linkage area – A linkage area provides connectivity between blocks of lynx habitat. Linkage areas occur both within and between geographic areas, where basins, valleys or agricultural lands separate blocks of lynx habitat, or where lynx habitat naturally narrows between blocks. (LCAS updated definition approved by the Steering Committee 10/23/01)

Listed species – Any species of fish, wildlife, or plant officially designated as endangered or threatened by the Secretary of the Interior or Commerce. Listed species are documented in 50 CFR 17.11 and 17.12 (FSM 2670.5).

Low-speed, low-traffic-volume road – Low speed is less than 20 miles per hour; low volume is a seasonal average daily traffic load of less than 100 vehicles per day.

Lynx habitat – Lynx habitat occurs in mesic coniferous forest that experience cold, snowy winters and provide a prey base of snowshoe hare. In the northern Rockies, lynx habitat is generally occurs between 3,500 and 8,000 feet of elevation, and primarily consists of lodgepole pine, subalpine fir and Engelmann spruce. It may consist of cedar-hemlock in extreme northern Idaho, northeastern Washington and northwestern Montana, or of Douglas fir on moist sites at higher elevations in central Idaho. It may also consist of cool, moist Douglas fir, grand fir, western larch and aspen when interspersed in subalpine forests. Dry forests do not provide lynx habitat. (LCAS)

Lynx habitat in an unsuitable condition –Lynx habitat in an unsuitable condition consists of lynx habitat in the stand initiation structural stage where the trees are generally less than ten to 30 years old and have not grown tall enough to protrude above the snow during winter. Stand replacing fire or certain vegetation management projects can create unsuitable conditions. Vegetation management projects that can result in unsuitable habitat include clearcuts and seed tree harvest, and sometimes shelterwood cuts and commercial thinning depending on the resulting stand composition and structure. (LCAS)

Maintain – In the context of this amendment, maintain means to provide enough lynx habitat to conserve lynx. It does not mean to keep the status quo.

Maintenance level – Maintenance levels define the level of service provided by and maintenance required for a road. (FSH 7709.58, Sec 12.3) Maintenance level 4 is assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds. Most level 4 roads have double lanes and aggregate surfaced. Some may be single lane; some may be paved or have dust abated. Maintenance level 5 is assigned to roads that provide a high degree of user comfort and convenience. Normally, roads are double-lane and paved, but some may be aggregate surfaced with the dust abated.

Mesic: Characterized by, or adapted to a moist habitat.

Mid-seral or later – Mid-seral is the successional stage in a plant community that's the midpoint as it moves from bare ground to climax. For riparian areas, it means willows or other shrubs have become established. For shrub-steppe areas, it means shrubs associated with climax are present and increasing in density.

Monitoring: The orderly collection, analysis, and interpretation of resource data to evaluate progress toward meeting management objectives.

Multi-story mature or late successional forest – This stage is similar to the old multistory structural stage (see below). However, trees are generally not as old and decaying trees may be somewhat less abundant.

Natural Appearing Landscape Character: Landscape character resulting from human activities, yet appears natural, such as historic conversion of native forests into farmlands, pastures, and hedgerows that have reverted back to forests through reforestation activity or natural regeneration.

Noxious Weed: Noxious weeds as those plant species designated as noxious by the Secretary of Agriculture or by the responsible State official. Noxious weeds generally possess one or more of the following characteristics: aggressive and difficult to manage, poisonous, toxic, parasitic, a carrier or host of serious insects or disease, and being native or new to or not common to the United States or parts thereof.

Nurse tree – A nurse tree is one that provides protection from the elements and assists other vegetation to establish.

Objective – An objective is a statement in a land management plan describing desired resource conditions and intended to promote achieving programmatic goals. (LCAS)

Old growth – Old growth forests generally contain trees that are large for their species and site, and are sometimes decadent with broken tops. Old growth often contains a variety of tree sizes, large snags and logs, and a developed and often patchy understory.

Old multistory structural stage – Many age classes and vegetation layers mark the old forest, multistoried stage. It usually contains large old trees. Decaying fallen trees may be present that leave a discontinuous overstory canopy. On cold or moist sites without frequent fires or other disturbance, multi-layer stands with large trees in the uppermost layer develop. (Oliver and Larson, 1996)

Periodic rest- A decision that can be made on an annual basis if periodic rest is identified as a tool in the allotment management plan; generally initiated after implementation or effectiveness monitoring indicates that resource objectives are not being met under current management or improvement in desired conditions are not occurring at a rate deemed acceptable by the authorizing official for grazing management.

Permanent development – A permanent development is any development that results in a loss of lynx habitat for at least 15 years. Ski trails, parking lots, new permanent roads, structures, campgrounds and many special use developments would be considered permanent developments.

Photo Point: A permanently identified point from which photographs are taken at periodic intervals.

Plant Community: An assemblage of plants living and interacting together in a specific location. No particular ecological status is inferred. Plant communities may include exotic or cultivated species.

Population - A collection of individuals of the same species who occupy a certain area and are capable of interbreeding.

Precommercial thinning – Precommercial thinning is mechanically removing trees to reduce stocking and concentrate growth on the remaining trees, and not resulting in immediate financial return. (Dictionary of Forestry)

Prescribed fire – A prescribed fire is any fire ignited as a management action to meet specific objectives. A written, approved prescribed fire plan must exist, and NEPA requirements met, before ignition. The term replaces management ignited prescribed fire. (NWCG)

Properly Functioning Condition (PFC): Ecosystems are in PFC when they function within their historic range of variability.

Rangeland: All land producing, or capable of producing, native forage for grazing and browsing animals, and lands that have been revegetated naturally or artificially to provide a forage cover that is managed like native vegetation. It includes all grasslands, forblands, shrublands, and those forested lands which can --- continually or periodically, naturally or through management --- support an understory of herbaceous or shrubby vegetation that provides forage for grazing or browsing animals.

Rangeland Analysis: Systematic acquisition and evaluation of rangeland resources data needed for allotment management planning and overall land management.

Rangeland Condition: A generic term relating to present status of a unit of range in terms of specific values or potentials. Specific values or potentials must be stated. Also defined as the present state of vegetation of a range site in relation to the climax (natural potential) plant community for that site. It is an expression of the relative degree to which the kinds, proportions, and amounts of plants in a plant community resemble that of the climax plant community for the site (also see Ecological Condition).

Rangeland Health: The degree to which the integrity of the soil, vegetation, water, and air, as well as the ecological processes of the rangeland ecosystem are balanced and sustained.

Red squirrel habitat – Red squirrel habitat consists of coniferous forests of seed and cone-producing age that usually contain snags and downed woody debris, generally associated with mature or older forests.

Redd: an excavated “nest” of developing salmonid eggs and embryos placed in the substrate of the stream.

Regeneration harvest – The cutting of trees and creating an entire new age class; an even-age harvest. The major methods are clearcutting, seed tree, shelterwood, and group selective cuts (Helms 1998).

Research – Research consists of studies conducted to increase scientific knowledge or technology. For the purposes of Standards VEG S5 and VEG S6, research applies to studies financed from the forest research budget (FSM 4040) and administrative studies financed from the NF budget.

Rest-rotation Grazing: This livestock management strategy involves rotating use between multiple range areas to allow recovery of range resources or to meet or move toward resource objectives. This strategy provides at least one year of rest from livestock grazing and is

frequently combined with deferred, early, and late season grazing techniques so pastures are rested until seed ripe time, and rested for seedling establishment.¹

Restore, restoration – To restore is to return or re-establish ecosystems or habitats to their original structure and species composition. (Dictionary of Forestry)

Rhizome – an underground stem that sends out roots and shoots from its nodes. Plants with rhizomes often form mats of connected shoots, referred to as “**rhizomatous mats**” in this document.

Riparian Area: The green zones bordering lakes, reservoirs, estuaries, potholes, springs and seeps, peatlands, wet meadows, vernal pools, and ephemeral, intermittent, or perennial streams. These zones are the interface or linkage between the upland (terrestrial) zone and the deep water (aquatic) zone.

Riparian area – An area with distinctive soil and vegetation between a stream or other body of water and the adjacent upland; includes wetlands and those portions of floodplains and valley bottoms that support riparian vegetation. (LCAS)

Riparian Conservation Area (RCA): As established by the Inland Native Fish Strategy, RCAs are portions of watersheds where riparian-dependent resources receive primary emphasis and management activities are subject to specific standards and guidelines. Examples include traditional riparian corridors, wetlands, intermittent streams, and other areas that help maintain the integrity of aquatic ecosystems. The following categories describe RCAs unless developed and documented through a watershed or site specific analysis.

Category 1 – Fish bearing streams: RCAs consist of the stream and the area on either side of the stream extending from the edge of the active channel to the top of the inner gorge, or to the outer edges of the 100 year floodplain, or to the outer edge of the riparian vegetation, or to the a distance equal to the height of two site potential trees, or 300 feet slope distance (600 feet including both sides of the stream channel), whichever is greatest.

Category 2 – Permanently flowing non-fish bearing streams: RCAs consist of the stream and the area on either side of the stream extending from the edge of the active channel to the top of the inner gorge, or to the outer edges of the 100 year floodplain, or to the outer edge of the riparian vegetation, or to the a distance equal to the height of one site-potential trees, or 150 feet slope distance (300 feet including both sides of the stream channel), whichever is greatest.

Category 3 - Ponds, lakes, reservoirs, and wetlands greater than 1 acre: RCAs consist of the body of water or wetland and the area to the outer, edges of the riparian vegetation, or to the extent of the seasonally saturated soil, or to the extent of moderately and highly unstable areas, or to the a distance equal to the height of one site-potential trees, or 150 feet slope distance from the edge of the maximum pool elevation of constructed ponds and reservoirs or from the edge of the wetland, pond, or lake, whichever is greatest.

Category 4 - Seasonally flowing or intermittent streams, wetlands less than 1 acre, landslides, and landslide-prone areas: This category includes features with high variability in size and site-specific characteristics. At a minimum the RCAs must include:

¹ In this analysis area, an area is managed under rest rotation if it is rested from livestock grazing at least once in 5 years.

- a. The extent of landslides and landslide-prone areas,
- b. The intermittent stream channel and the area to the top of the inner gorge,
- c. The intermittent stream channel or wetland and the area to the outer edge of the riparian vegetation,
- d. For Fish Conservation Watersheds, the area from the edges of the stream channel, wetland, landslide, or landslide-prone area to a distance equal to the height of one site-potential tree, or 100 feet slope distance, whichever is greatest.
- e. For watersheds not identified as Fish Key Watersheds, the area from the edges of the stream channel, wetland, landslide, landslide-prone area to a distance equal to the height of one-half site potential tree, or 50 feet slope distance, whichever is greatest.

Riparian Management Objective (RMO): Fish habitat objectives established for habitat attributes such as pool frequency, large woody debris, bank stability, bank angle, entrenchment ratio, fine sediment levels, water temperature, and width-to-depth ratio to achieve properly functioning condition in streams.

Salvage harvest – Salvage harvest is a commercial timber sale of dead, damaged or dying trees. It recovers economic value that would otherwise be lost. Collecting firewood for personal use is not considered salvage harvest.

Scenery: General appearance of a place, general appearance of a landscape, or features of a landscape.

Scenery Management: The art and science of arranging, planning, and designing landscape attributes relative to the appearance of places and expanses in outdoor settings.

Scenic Attractiveness: The scenic importance of a landscape based on human perceptions of the intrinsic beauty of landform, rock form, water form, and vegetation pattern. Reflects varying visual perception attributes of variety, unity, vividness, intactness, coherence, mystery, uniqueness, harmony, balance, and pattern. Attractiveness is classified as: A) Distinctive, B) Typical or Common, C) Undistinguished.

Scenic Concern Level –Public value and importance of views. See Agricultural Handbook No. 701, Chapter 4 to further define concern levels and their use to map landscape visibility and establish Scenic Integrity Objectives. **Concern Level 1:** A travel route or site where use is high, and/or concern for the scenery is high. **Concern Level 2:** A travel route or site where use is low or moderate, and/or concern for the scenery is moderate.

Scenic Integrity: State of naturalness or, conversely, the state of disturbance created by human activities or alteration. Integrity is stated in degree of deviation from the existing landscape character in a national forest as follows.

Very High – Generally provides for ecological change only.

High – Human activities are not visually evident. Activities may only repeat attributes of form, line, color, and texture found in the existing attributes, qualities or traits of a landscape that give it an image and make it identifiable or unique.

Moderate - Human activities must remain visually subordinate to the attributes of the existing landscape character. They may repeat form, line, color or texture common to these characters but changes in quality size, number intensity etc. must remain visually subordinate to the attributes, qualities or traits of a landscape that give it an image and make it identifiable or unique.

Low – Human activities of vegetative and landform alterations may dominate the original, natural landscape character but should appear as natural occurrences when viewed at background distances.

Scenic Quality: The essential attributes of landscape that when viewed by people, elicit psychological and physiological benefits to individuals and therefore, to society in general.

Scenic Resource: Attributes, characteristics, and features of landscapes that provide varying responses from and degrees of benefits to humans.

Security habitat (lynx) – Security habitat amounts to places in lynx habitat that provide secure winter bedding sites for lynx in highly disturbed landscapes like ski areas. Security habitat gives lynx the ability to retreat from human disturbance. Forest structures that make human access difficult generally discourage human activity in security habitats. Security habitats are most effective if big enough to provide visual and acoustic insulation and to let lynx easily move away from any intrusion. They must be close to winter snowshoe hare habitat. (LCAS)

Sensitive plants – A species, other than federally recognized threatened, endangered, proposed, or candidate species, that is known to occur on the Forest and for which the regional forester has determined that the best available scientific information indicates substantial concern about the species' capability to persist over the long-term on the Forest.

Seral Stage: A classification used to depict a relative stage of plant community succession along a successional pathway, toward or away from a potential natural community. Examples include low seral, mid seral, and high seral.

Shrub: A plant with persistent, woody stems, relatively low growth habit, and generally several basal shoots instead of a single bole.

Shrubland: Land on which the vegetation is dominated by low-growing woody plants.

Shrub steppe habitat – Shrub steppe habitat consists of dry sites with shrubs and grasslands intermingled.

Species Composition: Proportions of various plant species in relation to the total on a given area. Proportions may be expressed in percentages based on canopy cover, frequency, weight, etc.

Standard – A standard is a required action in a land management plan specifying how to achieve an objective or under what circumstances to refrain from taking action. A plan must be amended to deviate from a standard.

Stand initiation structural stage – The stand initiation stage generally develops after a stand-replacing disturbance by fire or regeneration timber harvest. A new single-story layer of shrubs, tree seedlings and saplings establish and develop, reoccupying the site. Trees that need full sun are likely to dominate these even-aged stands. (Oliver and Larson, 1996)

Stem exclusion structural stage – In the stem exclusion stage, trees initially grow fast and quickly occupy all of the growing space, creating a closed canopy. Because the trees are tall, little light reaches the forest floor so understory plants (including smaller trees) are shaded and grow more slowly. Species that need full sunlight usually die; shrubs and herbs may become dormant. New trees are precluded by a lack of sunlight or moisture. (Oliver and Larson, 1996)

Succession: The process of vegetative and ecological development whereby an area becomes successively occupied by different plant communities.

Threatened species – Any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range and that the appropriate Secretary has designated as a threatened species. (Some states also have declared certain species as threatened through their regulations or statutes) (FSM 2670.5).

Timber management – Timber management consists of growing, tending, commercially harvesting and regenerating crops of trees.

Transect: A linear plot, usually represented by a line, along which are often placed regularly spaced quadrats (plot frames), loops, or other devices.

Trend: The direction of change in an attribute (e.g., species composition, ground cover, etc.) as observed over time. Trend is described as “toward” or “away” from the desired plant community, or as “static”.

Understory re-initiation structural stage – In the understory re-initiation stage, a new age class of trees gets established after overstory trees begin to die, are removed or no longer fully occupy their growing space after tall trees abrade each other in the wind. Understory seedlings then re-grow and the trees begin to stratify into vertical layers. A low to moderately dense uneven-aged overstory develops, with some small shade-tolerant trees in the understory. (Oliver and Larson, 1996)

Utilization: The available forage by weight consumed or trampled through livestock grazing, usually expressed as a percent.

Vegetation management projects – Vegetation management projects change the composition and structure of vegetation to meet specific objectives, using such means as prescribed fire and timber harvest. For the purposes of this amendment, the term does not include removing vegetation for permanent developments like mineral operations, ski runs, roads and the like, and does not apply to fire suppression or to wildland fire use.

Vegetation Type: A kind of existing plant community with distinguishable characteristics described in terms of present vegetation that dominates the aspect or physiognomy of the area. Examples include conifer, aspen, xeric shrubland, grassland, etc.

Viable population - A population that has the estimated numbers and distribution of reproductive individuals to ensure the continued existence of the species within the planning area.

Viewshed: Total visible area from a single observer position, or the total visible area from multiple observer positions. Viewshed's are accumulated seen-areas from highways, trails, campgrounds, towns, cities, or other viewer locations. Examples are corridor, feature, or basin viewshed's.

Vigor: The relative robustness of a plant in comparison to other individuals of the same species. It is reflected primarily by the size of a plant and its parts in relation to its age and the environment in which it is growing.

VMap – VMap is a vegetation mapping program consisting of a geospatial database of existing vegetation (Brown and Barber 2011).

Wildland urban interface (WUI) - The area adjacent to an at-risk community that is identified in the community wildfire protection plan. If there is no community wildfire protection plan in place, the WUI is the area 0.5 mile from the boundary of an at-risk community or within 1.5 miles of the boundary of an at-risk community. The WUI could also include areas if the terrain is steep, or there is a nearby road or ridge top that could be incorporated into a fuel break, or the land is in condition class 3, or the area contains an emergency exit route needed for safe evacuations. (Condensed from HFRA. For full text see HFRA § 101.)

Winter snowshoe hare habitat – Winter snowshoe hare habitat consists of places where young trees or shrubs grow dense – thousands of woody stems per acre – and tall enough to protrude above the snow during winter, so hares can browse on the bark and small twigs (Ruediger et al. 2000). Winter snowshoe hare habitat develops primarily in the stand initiation, understory reinitiation and old forest multistoried structural stage.

Xeric: Characterized by, or adapted to a dry habitat.

Chapter 5 – Appendices

Changes between Draft and Final

Minor grammatical, punctuation, format and other changes not influencing document content are not listed here:

- Numerous DEIS appendices were provided to reviewers in separate envelopes not bound with the DEIS. In the FEIS appendices formatted to print on normal size paper are included within the text of the FEIS or as follows. Exceptions for oversize documents (maps) are noted below.

Appendix A Project Maps

Appendix A1- Alternative Maps
Appendix A2- Recreation Maps
Appendix A3- Range/Invasive Plants Maps
Appendix A4- Soil Maps
Appendix A5- Hydrology Maps
Appendix A6- Aquatic Maps
Appendix A7- Wildlife Maps
Appendix A8- Past Activity Maps
Appendix A9- Scenery Maps

Appendix B Project Tables

Appendix B1- Project Area Tables
Appendix B2- Recreation Tables
Appendix B3- Range/Invasive Plants Tables
Appendix B4- Sensitive Plants Tables
Appendix B5- Soil Tables
Appendix B6- Hydrology Tables
Appendix B7- Aquatic Tables
Appendix B8- Wildlife Table

Appendix C –Scoping Comments

Table C- 1 cross references comment letter numbers with the specific individual, group or organization making the comment.

Table C- 1 – Scoping Comment Cross References

Table 5:Comment Cross Reference Table	
Comment Letter #	Individual, Organization, or Agency
1	Vince Colucci
2	Jean Public
3	Sara Johnson – Native Ecosystems Council (NEC) and Michael Garrity – Alliance for the Wild Rockies (AWR)
4	Julie A. DalSoglio - Environmental Protection Agency (EPA)
5	Hans Humbert
6	Heidi Heirchy
7	Jim Olsen - MFWP
8	Nancy Schultz
9	Pat Flowers – MFWP

Table C- 2 summarizes public comments received during scoping and describes how each comment was addressed during the analysis process, as disclosed in the DEIS. The full content of letters and emails are available in the public involvement section of the project file. Please refer to the table above to cross-reference the letter number with the person making the comment.

Table C- 2- Scoping Comments

Letter #	Comment/Concern	Type of Comment	Response to Comment/ How Comment was Addressed
1	I have no significant issue with the current scope outlined	Statement, no cause-effect	Thank you for your support for the domestic livestock grazing project.
1	I do believe that the lands described (not wilderness) require better forest stewardship and less motor vehicle access. Retrieving the grazing cattle shouldn't be an exclusion to this	Scope of Project	Our stewardship of the lands within the eleven allotments will be based on Forest Plan Standards for livestock grazing. The Range section in Chapter 3 of the DEIS, discusses the permit process the permittee's go through to use motorized access to the grazing allotments for maintenance and repairs.
1	The wolf management plan in this area needs some teeth, if you will pardon the pun.	Scope of Project	Wolves were delisted in May 2011. Delisting allows Montana to manage wolves in a manner similar to how bears, mountain lions and other wildlife species are managed, guided by state management plans and laws. The Forest Service does not manage wolves and changes to the Montana Wolf Management Plan would be conducted by Montana Fish Wildlife and Parks.
1	The ungulate wildlife has been devastated by the wolves.	Statement, no cause-effect, Analysis,	Impacts to elk from this project will be analyzed in detail, including impacts from other past, present, and future actions with detailed population information.
2	all these cattle should be thrown off national lands.	Statement, no cause-effect	In Chapter 2 of the DEIS, the No Action alternative outlines no livestock on the allotments. Chapter 3 discusses the effects of this alternative on the various resources.
2	the rmp is a sick tawdry allocation of land owned by every citizen int he usa to the cattle profiteers, who abuse those animals	Statement, no cause-effect	The National Forest Multiple Use - Sustained Yield Act of 1960 (Public Law 86-517), authorizes national Forests to develop and administer the lands for renewable resources, including Range. The Range Allotment Management Plan (RMP) is the tool the Forest uses to implement this use.
2	this plan sucks to high heaven. it does nothing for the national citizens who own this land. national citizens are being ripped off by the cattle ranchers who pay cheap cheap cheap lease rates.	Statement, no cause-effect	The permittee's are part of the nation's citizenry.
2	these cattle ranchers could never find any private land owner willing to rent for the cheap cheap cheap rates they pay the national owners of that land. the fs doesnt own that land. the national citizenry does and the usda has been allowing this rip off to occur for years now. its time for a change.	Statement, no cause-effect	The Forest Service is the care taker of the lands within the National Forest boundary and this project follows direction outlined in law, regulation, and policy.

Letter #	Comment/Concern	Type of Comment	Response to Comment/ How Comment was Addressed
2	the authorized number of heads of cattle should be reduced to zero. send the cattle to private land owners.	Alternative	In Chapter 2 of the DEIS, the No Action alternative outlines no livestock on the allotments. Chapter 3 discusses the effects of this alternative on the various resources.
2	usda has gotten away with this murder of natural animals and birds for years. its time to stop their marauding. usda doesnt own this land. national citizens do. we say stop the murder.	Statement, no cause-effect	This project does not authorize the killing of any natural animals or birds. In Montana, Fish, Wildlife, and Parks regulate hunting.
2	this comment is for the public record.	Statement, no cause-effect	Your comments will be part of the disclosure documentation for this project.
2	american citizens have no obligation to let them pay peanuts for using our land and destroying all the natural animals and birds that need to live on that land.	Statement, no cause-effect/Analysis	Impacts to native wildlife will be analyzed in Chapter 3, in the Wildlife Section.
3	Also please define how the grazing impacts on westslope cutthroat trout on 8 of the allotments will be assessed as per viability of this sensitive species, and provide the monitoring data that is being used for this assessment and management of riparian grazing impacts.	Analysis	As identified in Ch. 3 under methodology in the Aquatics section, we disclose how viability of Westslope Cutthroat Trout (WCT) will be assessed. A summary of the monitoring findings are disclosed in the Aquatics section of Chapter 3. The detailed field information can be found in Appendix B6.
3	Please define the short and long term grazing impacts on key watersheds in the Seymour and Mussigbrod allotments.	Analysis	Grazing impacts to all watersheds within the project area, including Seymour and Mussigbrod allotments, can be found in the Hydrology Section of Chapter 3.
3	There is no MIS in the Forest Plan for small mammals, even though many of these are intolerant of grazing, or for songbirds associated with riparian areas, especially dense shrubbery. Please provide an MIS via a Forest Plan amendment for these species, and define what monitoring will be in place to address grazing impacts over time.	Analysis	This project uses the identified Forest Plan MIS. The courts have upheld the Forest Plan including the MIS. Based on the Design Features/Mitigation Measures 5,6,8,9 in Chapter 2, the project will provide protection for small mammals and song birds. Monitoring for each allotment can be found in Chapter 2, as part of the allotment specific allotment description.
3	We have very high concerns about the cumulative impacts of livestock grazing on aspen habitats. It appears that this impact is slowly eliminating aspen due to a failure of regeneration. Please provide a complete inventory of all aspen stands on these allotments, define their level of successful regeneration, and how the agency intends to address this serious problem.	Action/Analysis	In Chapter 3 in the Range Section, under existing condition it discloses the vegetation composition for each allotment and its existing condition. Aspen regeneration is not a part of the Purpose and Need. The Big Hole Landscape Assessment does identify Aspen as a species worthy of management focus, but is not part of this NEPA project.

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3	We are concerned about the cumulative impacts of sagebrush burning that has occurred on these allotments. Please summarize all the past burning that has occurred in the last 30 years.	Action	This information is summarized in Chapter 3 in the Range Section.
3	Please assess the grazing impacts on sagebrush habitats on these allotments.	Analysis	This information is summarized in Chapter 3 in the Range Section.
3	Please clearly define any and all plans to treat ecotones on these allotments to increase forage for livestock.	Analysis	At this time, there are no actions planned to specifically increase the forage in any of the allotments, regardless of which ecotone(s) may cover the allotment.
3	We also have significant concerns about noxious weeds. Please address how grazing affects weeds, how effective past management has been in addressing this problem, and how changes in the grazing program will be made to address this issue.	Analysis	See the Invasive Plants Analysis section in Chapter 3, for grazing effects on weeds and management effectiveness. See Chapter 2 for alternatives.
3	Please use the current best science to address the ecological need for ungrazed reserves for wildlife that are intolerant of grazing.	Action/Analysis	Current best science to address the ecological need for un-grazed reserves for wildlife will be analyzed in Chapter 3 in the Wildlife Section.
3	Please provide a sufficient analysis of the grazing impacts of cowbird parasitism on songbirds, and how any changes in past grazing programs will be implemented to address this serious problem.	Analysis	Analysis of the grazing impacts of cowbird parasitism on songbirds will be analyzed in Chapter 3 in the Wildlife Section.
3	Please do a complete analysis of existing sagebrush areas, and define the value of these ecosystems to wildlife, including sage grouse and the pygmy rabbit, as well as Montana Species of Concern and USFWS Birds of Conservation Concern.	Analysis	Analysis of sagebrush, value of these ecosystems to wildlife, including sage grouse and pygmy rabbit, Montana Species of Concern, and USFWS Birds of Conservation Concern can be found in Chapter 3, in the Wildlife Section.
3	The scoping notice claims there are no threatened or endangered species in this area, which is incorrect. Both grizzly bears and lynx occur. The agency needs to do formal consultation on these species, as well as update the lack of formal consultation in the Forest Plan for lynx.	Action	Grizzly bears and lynx will be analyzed in Chapter 3 in the Wildlife Section. The appropriate consultation process will be followed.
3	Please define the management strategy for dispersal habitat and alternate prey species habitat for the lynx in regards to lower elevation ecotone and sagebrush habitats.	Action/Analysis	Impacts to lynx, including all habitat types and prey will be analyzed in accordance to the direction in the Northern Rockies Lynx Management Direction Record of Decision.

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4	Water Quality Standards (WQS) are the primary regulatory mechanism used to achieve Clean Water Act goals. WQS establish designated uses for water bodies (or water body segments), support the uses with narrative and numerical water quality criteria, and protect high water quality with an Antidegradation or Nondegradation Policy. Proposed projects should be planned and designed to protect water quality to maintain and/or attain compliance with WQS.	Action/Analysis	This project was designed with the knowledge of existing streams within the project area that are on Montana's 303d list of quality impaired waters. The proposed project is designed with mitigation features, including fencing and adjusted seasons of use to help minimize further impacts to streams. Please see Chapter 2, the Proposed Action and Alternative 4 descriptions for more detailed information of fencing locations and seasons of use.
4	Wetlands should be included within designations of Riparian Habitat Conservation Areas (RHCAs). We note that temperature effects from riparian canopy/shade removal can persist downstream for significant distance in some small stream systems (e.g., up to 10km). It is important that proposed activities be consistent with the riparian management objectives described in the ICB Strategy, which include: * Achieve physical integrity of aquatic ecosystems; * Provide an amount and distribution of woody debris sufficient to sustain physical and biological complexity; * Provide adequate summer and winter thermal regulation; * Provide appropriate amounts and distributions of source habitats for riparian- or wetland-dependent species; and * Restore or maintain water quality and hydrologic processes. * Restore or maintain naturally functioning riparian vegetation communities	Action/Analysis	The Forest Plan on pages 18-21 identifies the applicable standards this project will comply with. Under each resource in Chapter 3, is also listed those other Federal, State and Local laws, regulations, and policies that are applicable.
4	EIS documents should have a clear and logical purpose and need statement that provides information regarding the administrative or regulatory reasons for this action, such as the expiration of the existing Allotment Management Plans (AMPs) or the need to address the suitability of the area for grazing.	Statement, no cause-effect	As identified in Chapter 1, the Purpose and Need is tied to the 2009 Forest Plan. The specific reasons, (compliance with new Forest Plan, need for site specific AUL's, and suitability) are tied back to the Goals and Objectives for Livestock Grazing on page 25 of the Forest Plan.

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4	We recommend that AMP revisions include restoration of degraded environments and ensure the long-term sustainability of environmental and ecological values. We encourage including "protection, restoration and enhancement of water quality, aquatic habitat, and hydrologic functions" within the purpose of the need statement for the grazing management project (i.e., improving conditions of riparian plant communities, improving water quality and aquatic habitat, reducing streamside trampling by livestock, achieving desirable vegetative conditions, etc.).	Alternative	The Purpose and Need does not include a restoration component. The actions proposed (exclosure's, changes in Season of Use, avoidance periods, site specific Allowable Use Levels, changes in Head Months, etc.) will help move the allotments towards Proper Functioning Condition (PFC), improved water quality, and aquatic habitat.
4	The overall ecosystem encompassing the analysis area including the location and size of analysis area should be described.	Action/Analysis	In Chapter 1 we have disclosed the location and size of the project area. Because each resource may have a different analysis area, please see the specific resource section in Chapter 3.
4	The analysis area boundary should include the environment potentially affected by implementation of the alternatives and should be a logical unit for projecting and measuring effects. The area should encompass the potentially affected environment, and serve as a baseline to compare projected impacts and for measuring actual effects.	Action/Analysis	Because each resource may have a different analysis area, please see the specific resource section in Chapter 3.
4	Ecological requirements may extend beyond the boundaries of the project area, although reasonable limits should be made to the scope of the analysis. If areas of analysis vary for specific resources, indicate how those areas differ and why.	Action/Analysis	In Chapter 3 under each resource section is a discussion of the analysis areas.

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4	Descriptions should be brief statements supported by information that is provided later in the document. In addition, the document should address any resource conditions that are not consistent with the overall objective of maintaining healthy, sustainable rangeland ecosystems and proper functioning condition of streams and riparian areas, and maintenance of Montana Water Quality Standards. This section (Purpose and Need) should also include a clear description of the proposed action in specific terms, and identify the official responsible for the decision.	Action	This information can be found in the Existing Condition section in Chapter 3 for the individual resources. The Proposed Action and all the alternatives are described in detail in Chapter 2.
4	The EIS should support the purpose and need with a range of reasonable alternatives that will meet the objectives of the purpose and need, and address resource and environmental issues and public concerns.	Action	Chapter 2 of the DEIS discloses in detail all the alternatives. Alternative 4 was developed based on scoping comments from the public and internally.
4	All issues raised during scoping should be identified in the EIS, and issues considered as significant should be clearly stated along with a statement of how they will be addressed in the document.	Action	Issues identified internally and from scoping are disclosed in Chapter 2. This table identifies all the scoping comments and how they were handled.
4	A brief statement should be provided to indicate how the proposed action complies with the Forest Plan, or how the Plan may have to be amended to accommodate the activity.	Action	In Chapter 2 as part of the alternative discussion, there is a discussion of how it complies with the Forest Plan and the Purpose and Need.
4	In accordance with NEPA (40 CFR 1502.14) the EIS should: a. Rigorously explore and objectively evaluate all reasonable alternatives. b. Devote substantial treatment to each alternative considered in detail so that reviewers may evaluate their comparative merits. c. Include reasonable alternatives not within the jurisdiction of the lead agency. d. Include a no action alternative. e. Identify the agency's preferred alternative(s). f. Include appropriate mitigation measures not already included in the proposed action or alternatives.	Alternatives	Chapter 2 of the DEIS describes and discloses all the alternatives considered in detail, alternatives not considered in detail, a list of Design Features/Mitigation Measure(s) common to all alternatives, and any alternative specific Design Features/Mitigation Measure(s).

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4	<p>A full range of reasonable alternatives should be developed in response to the significant issues identified during scoping. Such alternatives may include, but not be limited to: • No Action Alternative in which current management activities are maintained; • No Grazing Alternative in which all domestic grazing is removed from the area. The public and decision-makers can better understand grazing impacts if a No Grazing alternative is evaluated, particularly in areas where there are important wildlife species, riparian and watershed resources, intensive recreation demands, and so forth. Reducing or eliminating grazing should be evaluated to protect sensitive resources. Furthermore, various grazing statutes (e.g., Taylor Grazing Act and the Federal Land Policy and Management Act [FLPMA]) also require that the suitability of land be determined for grazing and whether natural resources will be adequately protected. • Alternative pasture rotations, grazing strategies, livestock distribution strategies, and/or adjusted animal unit months (AUMs) to respond to issues. To enhance the natural and human values for recreation and other benefits, management practices should enhance natural, functioning ecosystems in areas important for recreation and wildlife uses. • Alternative management actions such as bank trampling standards, forage utilization standards, stubble height, woody browse use, fencing, riding, exclosures, burning, off-stream watering and other range improvements or practices as appropriate to respond to the issues related to grazing. • Alternatives considered but not given detailed study should be identified along with the rationale for their dismissal.</p>	Alternatives	Chapter 2 of the DEIS describes and discloses all the alternatives considered in detail, alternatives not considered in detail, and a comparison of alternatives.

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4	The CEQ regulations state that an EIS should include the means to mitigate adverse environmental impacts (40 CFR 1502.16(h)), and appropriate mitigation measures not already included in the proposed action or alternatives (40 CFR 1502.14(f)). Mitigation measures common to all action alternatives should be identified along with statements of their effectiveness in minimizing impacts.	Action/Analysis	Chapter 2 discloses information on the Design Features/Mitigation Measures.

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4	<p>EPA suggests that Beaverhead-Deerlodge NF consider mitigation measures that avoid or minimize adverse environmental impacts and/or promote restoration of degraded rangeland resources. Actively manage grazing allotments for grazing frequency, duration, stocking rates, animal distribution, season and timing of forage use, and minimal wildlife use conflicts. Studies show that livestock numbers and intensity have greater effects on herbage production than other grazing practices.</p> <p>Fence or otherwise protect ecologically productive and sensitive riparian zones.</p> <p>Eliminate livestock and erect exclosure in areas that are proposed to restore ecological resources or protect sensitive fish and wildlife species.</p> <p>Permanently or seasonally eliminate or limit livestock numbers and types in areas that are predisposed to damage during periods of high sensitivity.</p> <p>Vacated grazing allotments, if any, should be considered to remain vacated to provide areas for recovery and future restoration opportunities.</p> <p>Actively restore (for example, weed control or reseedling of native vegetation) areas that are severely degraded.</p> <p>Structures or management practices should be considered to stabilize eroded or at-risk stream banks.</p> <p>Identify "triggers"- drought, natural catastrophes, forage production and condition, and impacts on sensitive native species, for example- that would reduce or remove livestock numbers and duration in an allotment. Incorporate flexibility in allotment permits to account for such special circumstances.</p> <p>Precipitation is a primary determinant in both herbage production and plant diversity.</p> <p>Prohibit the use of off-road vehicles for grazing management in areas where they conflict with sensitive wildlife or non-motorized recreation areas and users.</p>	Actions/Analyses	As identified in Chapter 2, the Design Features/Mitigation Measures are to help avoid or minimize adverse environmental impacts and helps move the resources toward improvement.

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4	If there are local groups focusing on watershed/ecosystem recovery, we encourage the Beaverhead Deerlodge NF to consider including a watershed or ecosystem restoration alternative for detailed evaluation, or at least to include watershed/ecosystem restoration elements in the reasonable alternatives.	Alternative	A Watershed/Restoration alternative was considered, but not evaluated in detail because it did not meet our Purpose and Need of Updating the grazing management and infrastructure to comply with the applicable 2009 Forest Plan direction.
4	Water quality improvement or fisheries enhancement projects that are proposed as part of the project alternatives should be clearly described.	Alternatives	Identified in Chapter 2 of the DEIS, the Proposed Action and Alternative 4 identify specific actions to improve water quality and aquatic habitat.
4	If watershed restoration work will be committed to with the project decision that should be clearly stated. If watershed restoration work is to be carried out only as available funding allows, the potential funding source and likelihood of funding or priority should be identified.	Action	Watershed restoration is not part of the projects Purpose and Need. Many of the actions proposed (rest rotation, deferment of entry, rest, fencing, additional water, and reduction in head months) will help to move the watersheds towards improvement.
4	We also support the need for monitoring and evaluation and incorporation of principles of adaptive management in the alternatives, and highly support strategies that maintain and/or restore watershed condition and water quality to fully support beneficial uses.	Actions	Each allotment will have Annual Compliance and Long-term rangeland monitoring. This will include monitoring of the site specific Allowable Use Levels (AUL's) that will help to determine if the livestock need to be moved or if other actions need to be taken for the protection of the resources. The site specific AUL's are used instead of other adaptive management tools.
4	We recommend that tables, maps, figures, charts, photos, etc., be used as much as possible and wherever appropriate to present and display information and specific features of alternatives so that the various alternatives can be clearly understood (e.g., grazing strategies, AUMs, range improvements, exclosures, riding, off-stream watering, prescribed burning, road construction & reconstruction, road obliteration, road improvements, watershed, fisheries, and stream channel improvements, revegetation, weed treatments, etc.). Maps that show allotments and project features in relation to streams and wetlands and other watershed characteristics such as critical fisheries habitat, 303(d) listed stream segments, etc., are particularly useful.	Action	We concur. See the table of context for a list of the maps, figures, graphs, and tables.

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4	It is helpful if the rationale for inclusion and location of grazing strategies, AUMs, and range improvements are discussed. Such rationale enhances public understanding of the proposed project, better achieves the public disclosure purpose of the EIS, and better explains to the public the environmental and resource trade-offs involved in making land management decisions.	Action	We concur. We have identified by pasture and located on maps where there are changes to the infrastructure and described narratively where these actions are occurring. See appendix A for maps and Chapter 2, allotment specific actions, Tables 16-27 for the narratives.
4	A comparison of the alternatives' responsiveness to the significant issues should be displayed. These summaries should be supported by information presented later in the document, in an appendix, or in referenced specialist reports. Referenced reports should be readily available upon request.	Analysis	In Chapter 2 of the DEIS there is a table that provides a comparison of the alternatives.
4	We highly recommend that an alternatives matrix table that summarizes major features and significant environmental impacts of alternatives be provided to facilitate understanding of the alternatives, particularly distinctions between alternatives, and provide comparative evaluation of alternatives in a manner that sharply defines issues for the decision maker and the public to make in regard to a reasoned choice among alternatives.	Analysis	We have a table in Chapter 2 of the DEIS that displays the actions by alternative by allotment, along with the associated effects.
4	A clear description of the decision criteria, both measured and qualitative, that are used to evaluate and select alternatives .would be helpful.	Action	As part of the Record of Decision (ROD), there will be clear disclosure of the decision criteria and how they were used in selecting the alternative to implement.
4	Also, if there are any proposed nearby actions or adjacent developments that are closely related to the proposed action it would be appropriate to analyze and discuss those related developments as a connected action (40 CFR 1508.25).	Action/Analysis	There are no connected actions associated with this project. A list of Past, Present, and Reasonably Foreseeable Future activities can be found in Chapter 3.

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4	The EIS should succinctly describe the existing conditions and resources (using watershed analysis where applicable) within the analysis area that will be affected by the proposed alternatives. We particularly encourage identification of areas with high demand for recreation use and/or areas with high public interest in preservation, conservation, and or restoration.	Action/Analysis	Chapter 3 of the DEIS discloses the existing condition for each of the applicable resources including recreation and hydrology.
4	The EIS should also evaluate and disclose all activities and associated environmental impacts related to project implementation.	Analysis	In Chapter 3 of the DEIS, each resource discusses and discloses the effects to their resource by alternative.
4	Environmental analysis documents should reflect the level of analysis and data compilation actually completed, so that the reviewer is able to establish whether data exists to support conclusions within the analysis.	Analysis	Appendix B of the DEIS contains the field data used by the individual resources in their effects analysis.
4	The effects analysis should be able to stand on its own. Of particular concern to range management decisions is a discussion of the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity of the area. This should also include a discussion of any irreversible or irretrievable commitments of resources to be made with each alternative.	Analysis	In Chapter 3 of the DEIS, each resource discusses and discloses the effects to their resource by alternative. The short and long term effects are discussed as well as any potential irreversible or irretrievable commitment of their resource.

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4	The discussion should include analysis of impacts within the analysis area resulting from activities on all lands, regardless of ownership. In accordance with NEPA the EIS section should address (40 CFR 1502.16): a. Direct effects and their significance. b. Indirect effects and their significance. c. Possible conflicts between the proposed action and the objectives of Federal, regional, State, and local (and in the case of a reservation, Indian tribe) land use plans, policies and controls for the area concerned. d. The environmental effects of alternatives including the proposed action. e. Energy requirements and conservation potential of various alternatives and mitigation measures. f. Natural or depletable resource requirements and conservation potential of various alternatives and mitigation measures. g. Effects to Historic and cultural resources. h. Means to mitigate adverse environmental impacts.	Action/Analysis	In Chapter 3 of the DEIS each resource will discuss the cumulative effects of past present, and reasonably foreseeable future activities within in their analysis area for each alternative.
4	We encourage inclusion of tables, figures, and other visual aids to compare all effects associated with each alternative.	Action	We concur. See the table of context for a list of the maps, figures, graphs, and tables.
4	Sufficient information should help to determine the potential risks to resources and to evaluate risk and uncertainty associated with natural resource protection.	Analysis	This information can be found in Chapter 3, of the DEIS under each resource.
4	Analyses should determine which alternative(s) best protects overall values. Biological, vegetative, and stream/riparian impacts for each alternative should be accompanied by the evaluation of their risks and information about potential remedial costs to restore biological functions and values, if available.	Analysis	As part of the analysis for each resource there is a table that compares the effect of each alternative on the resource. The decision maker will review these tables to help them make an informed decision in part based on the risk to and protection of the resources, while still being able to meet the Purpose and Need.
4	The EIS should disclose how grazing historically has affected soils, water tables, vegetation, erosion, streams, riparian areas, and fisheries uses and wildlife habitat.	Action	In Chapter 3 of the DEIS, each resource discusses and discloses the past activities that have contributed to the existing condition of the resource including past livestock grazing.

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4	EPA recognizes the complexity of environmental impacts and the regional socioeconomic dependence of grazing interests on public lands. EPA's concerns relate to potentially adverse impacts from grazing management on surface and ground water, soils, vegetation, fish and wildlife, and ecosystems. In those situations where the resource condition is expected to move toward a desired condition, this discussion should include an estimation of the length of time it is expected to take to meet the desired condition. This should include a description of benchmark conditions to be monitored to determine the trend of the resource condition, and therefore the relative success of the management strategy.	Action/Analysis	In Chapter 3 of the DEIS each resource discusses and discloses what goals and/or objectives this project will help move the resource towards. Any applicable monitoring for trends is also discussed and disclosed in the Methodology section of each resource.
4	The EIS should include discussion of the management actions that will be taken by the Agency and future management objectives, and should explain how grazing will be managed to meet management objectives. The discussion should predict rangeland conditions under the various grazing management alternatives, comparing future projected conditions to current condition to evaluate how rangeland management practices will improve the resource.	Alternative	Chapter 2 of the DEIS discusses and discloses the actions proposed by alternative. Chapter 3 discloses a table listing present and future actions within the project area. The Forest Plan on page 25 outlines the objectives for livestock grazing that the forest will be following and that this project will move the forest towards these objectives. In Chapter 3 under the Range section there is a discussion of the changes in Rangeland condition by alternative and the monitoring that is associated with each allotment.
4	A discussion of Range Management should clearly display the differences between the alternatives and the impacts to the permittee and the overall operation of the allotment. Discussion should also include an analysis of the cost effectiveness of precluding streamside grazing in contrast to permitting grazing supplemented by additional monitoring and mitigation to protect water resources.	Action/Analysis	Effects to the permittee's and the overall management of the allotment is discussed and disclosed in the Range and Social/Economic sections of Chapter 3 of the DEIS. An economic analysis of each alternative can be found in the Social/Economic section of Chapter 3 of the DEIS.
4	The goal of the Taylor Grazing Act, and numerous Federal statutes that have followed, is to rehabilitate rangelands in the United States. Rehabilitation is to be accomplished partly through controlling the numbers of livestock, protecting riparian areas (fencing and off-stream stock watering), rotating animal herds, and so forth.	Statement, no cause-effect	Although the Purpose and Need does not include a rehabilitation component, we believe that the actions proposed in Alternative 4 and the Proposed Action will help move each allotment towards the Goals in the Forest Plan for Livestock Grazing (pg. 25), which includes maintenance or enhancement of plant community structure and diversity, and maintaining or restoring riparian function.

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4	Healthy vegetation and soils improve water infiltration and nutrient cycling; resist wind and water erosion of soils; enhance forage production; and protect water resources, wildlife habitat, and other values. Livestock grazing, roads, off-road vehicle use, and other land uses (e.g.; recreation uses) can adversely affect ecosystem functions and forage production, particularly such uses on sensitive soils. Grazing generally is intensive along fence lines, trails, roads, watering areas, and bedding areas. Soil compaction and overuse of forage is common in these and other areas where livestock naturally congregate. Erosion, gully formation, incision of natural and created channels, and sedimentation of nearby waters are common impacts in overused areas. The EIS should identify such areas and propose protection and restoration, particularly in riparian and other sensitive areas.	Analysis	We agree. Alternative 4 was developed to provide increased protection to areas observed in the field that the IDT felt warranted additional resource protection.
4	The EPA is particularly interested in grazing effects on water quality and aquatic habitat and recommends that the EIS clearly describe water bodies within the analysis area and which will be affected by grazing activities (rivers, streams, lakes, wetlands). A good watershed map showing streams, lakes, wetlands and other surface waters in the project area in relation to grazing allotments should be included in the DEIS to allow clear understanding of water quality impacts.	Action/Analysis	We concur. Chapter 3 of the DEIS discloses the existing water bodies associated with each allotment and the aquatic habitats. See Appendix A5 for a listing of the maps for hydrology and Appendix A6 for aquatics.

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4	The EPA considers the collection of baseline water quality and aquatic habitat data at the project level important to provide a comparison with estimated impacts as well as actual impacts. Where water quality and aquatic habitat information for individual water bodies exists, it should be presented. This would include inventories; baseline data information such as temperature, sediment, turbidity, channel morphological conditions, the presence of toxic substances; water quality and the existence of any known point or non-point pollution sources or other problems. The EIS should reveal what data is available and the condition (reliability, gaps in data, etc.) of that information.	Actions/Analyses	As identified in Chapter 3 and Appendix B of the DEIS, the data for water quality and aquatic habitat is discussed and disclosed in the Hydrology and Aquatic sections.
4	Much of the information provided in the water quality/aquatics or watershed section can, and should, be correlated to fisheries resources. Fisheries information such as fish species present, populations, and important fisheries habitats such as spawning gravels, over-wintering pools, stream bed and bank conditions that affect fisheries habitat such as undercut bank habitat, riffle/pool ratios, substrate conditions, vegetative cover, availability of large woody debris, and the potential of the streams to support threatened, endangered, or sensitive fish species should be described.	Analysis	Chapter 3 of the DEIS Aquatics section, these items are discussed and disclosed.
4	The EIS should identify both current and projected impacts from proposed grazing activities on water quality, fish and riparian habitat, reductions in habitat capability due to grazing, spawning and rearing habitat, etc.	Action/Analysis	Chapter 3 of the DEIS Aquatics section discusses and discloses this information.
4	Watersheds and hydrologic conditions should be described in terms of water quality, quantity, stream morphology, aquatic life, beneficial uses (e.g., fisheries, public water supply, irrigation) and beneficial use support, and status of proper functioning condition.	Action/Analysis	Chapter 3 of the DEIS Hydrology section discusses and discloses this information.

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4	Identify any existing conditions or activities adversely affecting watershed characteristics. These might include stream bank disturbance from livestock, road related sedimentation, or natural slumping. Watershed or stream restoration or fisheries enhancement projects that are proposed as part of the project alternatives should be clearly described.	Action/Analysis	Chapter 3 of the DEIS has a table that list by decade and land ownership past, present, and reasonably foreseeable future activities within the project area. This list is used by each resource including Hydrology to identify those activities that contributed to the existing condition and that will be used in their cumulatively effects analysis.
4	WQS are established by States, but must be reviewed and approved by EPA in accordance with 40 CFR Part 131. Montana WQS are found in the Administrative Rules of Montana (ARM) 17.30 Subchapter 6, and the Montana Non-degradation rules are found in ARM 17.30 Subchapter 7. Montana's Non-degradation Rules are intended to assure that existing high surface water quality and designated water uses will not be degraded	Statement, no cause-effect	Thank you for your comment and reference. As discussed in Chapter 3 of the DEIS in the Hydrology section, the applicable state water quality standards will be followed.
4	Existing Water Quality Standards applicable to the affected water bodies should be presented to provide a basis for determining whether beneficial uses will be protected and water quality standards met. Other information relevant to the analysis, such as aquatic species habitat and the condition and productivity of that habitat, should also be included (e.g., effects on stream banks, channel stability, streambed substrate including seasonal and spawning habitats, riffle and pool habitat, large woody debris, stream bank vegetation, and riparian habitats).	Analysis	Chapter 3 of the DEIS on the Hydrology and Aquatics section discuss and disclose this information.
4	The analysis should disclose whether the project will cause any reductions in habitat capability or impair designated uses.	Analysis	Chapter 3 of the DEIS Aquatics section discusses and discloses this information in their analysis section. The Hydrology section of Chapter 3 discusses and discloses designated uses information and uses it in their analysis section.
4	Special attention should be made regarding Montana's identification of water bodies with impaired uses in their Clean Water Act Section 303(d) report. The EIS should identify water bodies in the analysis area listed by the Montana Dept. of Environmental Quality (MDEQ) as water quality impaired under Section 303(d) of the Clean Water Act (see http://cwaic.mt.gov/), as well as the magnitude and sources of such impairment.	Action/Analysis	Chapter 3 of the DEIS in the hydrology section there is a discussion of the 303d listed streams and a map in Appendix A5.

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4	All impaired waters in the project area should be identified in the DEIS. It is likely that proposed activities have potential to affect sediment/siltation and turbidity in project area streams. Stream segments designated as "water quality impaired" and/or "threatened" listed on State 303(d) lists require development of a Total Maximum Daily Load (TMDL). We encourage review of MDEQ's guidance document "Understanding TMDL's Pamphlet" which can be downloaded at, http://deg.mt.gov/wginfo/TMDL/default.mcp.x .	Action/Analysis	Thank you for your comment and reference. As discussed in Chapter 3 of the DEIS in the Hydrology section, the applicable state water quality standards will be followed.
4	Pending completion of a TMDL in Montana, new and expanded nonpoint source activities may commence and continue, provided those activities are conducted in accordance with (MCA 75-5-703). The Administrative Rules of Montana (17 .30.602) define these as "methods, measures, or practices that protect present and reasonably anticipated beneficial uses." "Reasonable soil, land and water conservation practices" include but are not limited to structural and nonstructural controls and operation and maintenance procedures. Appropriate practices may be applied before, during, or after pollution producing activities. It is important to note that "reasonable soil, land and water conservation practices" are differentiated from BMPs, which are generally established practices for controlling nonpoint source pollution. BMPs are largely practices that provide a degree of protection for water quality, but may or may not be sufficient to achieve Water Quality Standards and protect beneficial uses. "Reasonable soil, land and water conservation practices" include BMPs, but may require additional conservation practices, beyond BMPs to achieve Water Quality Standards and restore beneficial uses.	Action/Analysis	Thank you for your comment and reference. As discussed in Chapter 3 of the DEIS in the Hydrology section, the applicable state water quality standards will be followed.

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4	The EIS should describe how the proposed project might affect impaired water bodies, particularly how the water quality parameters causing the impairment and 303(d) listing may be affected.	Analysis	Chapter 3 of the DEIS Hydrology section discusses and discloses this information.
4	It is EPA's policy that proposed activities in the drainages of 303(d) listed streams should not cause further degradation of water quality, and should be consistent with the State's TMDL's and water quality restoration plans. Such consistency means that if pollutants may be generated during project activities, mitigation or restoration activities should also be included to reduce existing sources of pollution to offset or compensate for pollutants generated during project activities in accordance with the TMDL and long-term restoration plan.	Action/Analysis	Chapter 3 of the DEIS Hydrology section discusses and discloses this information. Several of the proposed actions such as fencing, will help to decrease livestock from trampling the banks and adding sediment to the existing 303(d) streams.
4	Recognizing uncertainties and desiring a margin of safety, such compensation should more than offset pollutants generated, resulting in overall reductions in pollution consistent with long-term water quality improvement and restoration of support of beneficial uses. Watershed restoration activities that compensate for pollutant production during management activities in watersheds of 303(d) listed streams should also be implemented within a reasonable period of time in relation to pollutant producing activities (e.g., 5 years).	Action/Analysis	Although the Purpose and Need does not include a restoration component, we believe that the actions proposed in Alternative 4 and the Proposed Action will help move each allotment towards the Goals in the Forest Plan for Livestock Grazing (pg. 25) and improve the 303(d) listed streams in the project area.
4	We recommend that the Beaverhead-Deerlodge NF coordinate with Montana DEQ TMDL program staff to assure consistency of proposed grazing management actions with TMDL's and Water Quality Plans being prepared by MDEQ (contact MDEQ staff such as Mr. Dean Yashan at 406-444-5317, and/or Mr. Robert Ray at 406-444-5319).	Action/Analysis	As outlined in the Forest Plan on page 16, the Forest cooperates with state, tribal and other organizations in the development and implementation of TMDL's.

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4	<p>Actions often recommended to address TMDL goals to improve water quality include: *properly maintain forest roads and implement road BMPs</p> <p>*decommission forest roads that are surplus to the needs of management and access</p> <p>*upgrade undersized culverts be upgraded to better accommodate large floods and/or realign culverts to provide fish passage,</p> <p>*minimize new road construction and particularly road stream crossings</p> <p>*locate roads away from streams and riparian areas as much as possible</p> <p>*improve grazing management</p> <p>*use adequate BMPs be used on all timber harvest operations</p> <p>*emphasize use of less disturbing harvest methods that minimize ground disturbance and erosion potential (skyline, helicopter, logging on snow or frozen ground)</p> <p>*provide adequate riparian buffers (conform to INFISH standards)</p> <p>*address other existing sediment sources to streams such as unstable streambanks.</p>	Actions	As outlined in the Forest Plan on page 16, the Forest cooperates with state, tribal and other organizations in the development and implementation of TMDL's.
4	<p>Executive Order 11990 requires that Federal Agencies "take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities ... " and agencies are further directed to "avoid undertaking or providing assistance for new construction located in wetlands unless the head of the agency finds (1) that there is no practicable alternative to such construction, and (2) that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use ... ". The EIS should describe how the alternatives will meet the wetland protection goals in EO 11990. Executive Order 11990 requires Federal agencies to protect both jurisdictional and non-jurisdictional wetlands.</p>	Analysis	As outlined in Chapter 3 of the DEIS in the Hydrology section, this project will comply with all applicable laws, regulations, and policies, including Executive Order 11990.
4	The EIS should describe existing wetlands and riparian areas in the analysis area; their acreage, type, and ecological function.	Action/Analysis	See Chapter 3 of the DEIS, hydrology section for a description of the project areas wetlands and riparian areas.

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4	Riparian and wetland areas should be described in terms of size, location, percent of analysis area, function, value, and condition. This should include the following attributes: hydrogeomorphic, vegetation, erosion/deposition, soils, and water quality.	Analysis	See Chapter 3 of the DEIS, hydrology section for a description of the project areas wetlands and riparian areas.
4	The status of riparian and wetland Proper Functioning Condition (PFC) should be described along with their current ecological status and trend. The Bureau of Land Management technical references TR 1737-9 "Process for Assessing Proper Functioning Condition", and TR 1737-11 "Process for Assessing Proper Functioning Condition for Lentic Riparian Wetland Areas" are available to assist in PFC determination.	Action/Analysis	See Chapter 3 of the DEIS, hydrology section for a description of the methodology for determining Proper Functioning Condition (PFC).
4	Livestock grazing, vegetative browsing, road construction and vegetation clearing, and other disturbances may result in riparian and hydrologic impacts. Grazing can promote changes to surface and subsurface drainage patterns that can ultimately lead to changes in wetland integrity and function. Wetland impacts should be avoided, and then minimized, to the maximum extent practicable, and then unavoidable impacts should be compensated for through wetland restoration, creation, or enhancement.	Action/Analysis	The Proposed Action and Alternative 4 provide actions increase protection for riparian and wetland areas. At this time there are no wetlands identified as needing restoration, creation or enhancement.
4	For your information, EPA has identified general recommendations for "National Management Measures to Protect and Restore Wetlands and Riparian Areas for the Abatement of Nonpoint Source Pollution" at http://www.epa.gov/owow/nps/wetmeasures/pdf/guidance.pdf .	Statement, no cause-effect	Thank you for this reference. See the hydrology section in Chapter 3 of the DEIS for how this information was covered.

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4	Within the Interior Columbia Basin EPA evaluates land management activities for consistency with the provisions of the Interagency Memorandum of Understanding between the Forest Service, BLM, EPA, USFWS, and NMFS for Forest Service implementation of the Interior Columbia Basin Strategy on National Forest lands (referred to as the ICB Strategy, see http://www.icbemp.gov/html/icbstrat.pdf , and http://www.icbemp.gov/html/aqipfrm7804.pdf).	Statement, no cause-effect	The revised Forest Plan for the Beaverhead-Deerlodge NF took this MOU into consideration during the revision. This project reflects those considerations through meeting the applicable Forest Plan Standards.
4	Riparian Habitat Conservation Areas (RHCAs) are an important management element in the ICB Strategy to maintain and restore the health of watersheds, riparian, and aquatic resources to sustain aquatic and terrestrial species and provide water of sufficient quality and quantity to support beneficial uses. We support RHCA buffer zones to avoid adverse impacts to streams, wetlands and riparian areas.	Action/Analysis	With the site specific Allowable Use Levels (AUL's) and the standards in the 2009 Forest Plan, we believe riparian and wetland health will be maintained or moved towards a healthier state.
4	The EIS should describe how grazing management will be monitored, evaluated and adjusted over time to achieve desired conditions and protect the environment.	Action/Analysis	As identified in Chapter 2 of the DEIS, under the Proposed Action and Alternative 4, each allotment will have monitoring. Some will also be a part of the Forest Wide monitoring of upland and wetland areas. The information from this monitoring will be used during the development of the Annual Operating Instructions (AOI)
4	Principles of adaptive management should be used to develop and implement allotment management plans. The EIS should consider: (1) specific resource objectives, (2) minimum thresholds for ecosystem and forage health (particularly in riparian areas, critical wildlife habitats, and important recreation areas), (3) a monitoring plan that provides sufficient evaluation of the impacts from allotment management plans, and (4) measures that can be adopted should there be unexpected impacts from land management practices or from drought, catastrophic fire, noxious weed infestation, or other unforeseeable events.	Action/Analysis	As discussed in Chapter 2, the identified alternatives consider different options for meeting the standards in the 2009 Beaverhead-Deerlodge National Forest. The development of the Site Specific Allowable Use Levels allows for needed adjustments based on the site specific standards that is outlined in the Annual Operating Instructions.

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4	The monitoring plan should identify the purpose of the monitoring, what questions are to be answered by monitoring, what resource conditions are to be monitored, who will do the monitoring, when and how often it will be done, what conditions will initiate additional measures if needed, and how reporting and feedback will be implemented and used. Of particular concern for the long-term monitoring is identification of benchmark conditions to be monitored to determine relative progress toward a desired condition, and what conditions might lead to a change in the management strategy.	Action/Analysis	Chapter 2 of the DEIS outlines the monitoring that is common to all action alternatives. Needed adjustments are outline in the Annual Operating Instructions that in part is based on review of the previous year's monitoring for the short term and long term. Chapter 3 of the DEIS, under each resource is disclosed any benchmark conditions.
4	To the extent possible, there should be details in the monitoring plan about the types of surveys, location and frequency of sampling, parameters to be monitored, indicator species, budget, procedures for using data or results in project implementation, and availability of results to interested and affected groups. Feedback should allow comparison of baseline data with monitoring results to adjust standard operating procedures, monitoring intensity, and protocols promptly when adverse effects occur, to ensure that mitigation strategies will improve in the future and that unforeseen adverse effects are identified and minimized.	Analysis	Chapter 2 of the DEIS outlines the monitoring that is common to all action alternatives.
4	Indicators should be developed for not only fish, wildlife, and vegetative species but also for resources such as vegetative structure, soils, and recreation amenities, and introduced species such as noxious weeds or alien predators.	Analysis	Chapter 3 of the DEIS outlines for each resource the resource indicators that will be used for the analysis and the units of measures.
4	A management indicator species (MIS) list should be maintained to assist in achieving a baseline and working toward management objectives. A MIS list should focus on aquatic and terrestrial animal and plant species and other important factors that contribute to the success of livestock management, biodiversity, and species' viability.	Analysis	The 2009 Forest Plan outlines the MIS list for the applicable resources, i.e. aquatics page 16, wildlife page 47.

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4	For range management, there appears to be three distinct purposes for monitoring. The first is to determine annual management actions to be taken, such as movement of animals within or between pastures. The second reason is to determine the overall trend of the range, water, and related conditions over time. The third reason is to validate predictions made during the analysis process and measure the effectiveness of the mitigation measures (quantitatively-if possible, and/or a qualitatively), and determining the need for modifying mitigation or adding mitigation measures.	Statement, no cause-effect	We agree. We believe that the monitoring outlined for this project allows will provide information for all three purposes.
4	A well-designed monitoring plan demonstrates how well the preferred alternative resolves the identified issues and concerns by measuring the effectiveness of mitigation measures to control or minimize adverse effects.	Statement, no cause-effect	We agree. We believe that the monitoring outlined in Chapter 2 of the DEIS for this project will allow us to identify concerns and make adjustments in a timely way.
4	The EIS should address how management actions will track unforeseen, adverse environmental impacts to sensitive natural resources and how they can or will be avoided or mitigated.	Analysis	Chapter 3, in the Range, Aquatic, Botany, Range, and Wildlife sections outline how impacts to sensitive natural resources will be addressed and the appropriate mitigation.
4	The effectiveness of grazing, fire treatment, and other management practices should be addressed for critical environmental receptors such as keystone plant and animal species and sensitive vegetation, wildlife, and fish (including endangered, threatened, or rare species).	Action/Analysis	Chapter 3 of the DEIS covers this in each of the resource sections.
4	The USFS should also identify resource needs to carry out its proposed monitoring program. There may also be a need for enforcement activities if illegal grazing on public lands occurs or if other unallowable land uses such as use of motorized vehicles off of designated roads and trails occurs, or vandalism, or intentional introduction of nonnative species, and other land uses degrade public land and resources.	Action	The monitoring section of Chapter 2 outlines the applicable monitoring including methodology.

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4	<p>We encourage the Beaverhead-Deer!odge NF to contact the Montana Dept. of Environmental Quality (MDEQ) in Helena to obtain information and guidance for developing grazing monitoring programs (e.g., the document "Monitoring Protocols for Success").</p> <p>Appropriate grazing monitoring programs generally include evaluation of effects upon:</p> <ul style="list-style-type: none"> • Stream Channels - width/depth ratios, channel down cutting/changing water table, stream bottom sedimentation • Stream Banks -bank stability, riparian vegetation/species, percent cover, vigor • Water Quality- dissolved oxygen, fecal coliform, temperature, nutrients, fish population and habitat, macroinvertebrate bioassessments • Forage/Woody Utilization- stubble height, woody browse use • Wildlife Use 	Action/Analysis	Thank you for the recommendation. As outlined in the BDNF 2009 Forest Plan, we will coordinate with the MTDEQ on all applicable projects.
4	Aquatic/water quality effectiveness monitoring activities that have been, are, or will be, carried out to evaluate the proposed project's effects on 303(d) listed streams should also be summarized.	Analysis	Chapter 3 of the DEIS, Hydrology and Aquatic sections discuss and disclose this information.
4	We recommend that the EIS describe the Potential Natural Community (PNC) of riparian areas, upland sites, and critical habitats such as subalpine areas and wetlands.	Analysis	This information is discussed and disclosed in Chapter 3 of the DEIS in the Soil and Range sections.
4	Vegetative communities, upland and riparian habitat, forage utilization and conditions, rare and sensitive plants, and noxious weed conditions should be described. Indicate the ecological status of these sites and the successional direction (trend) in which these sites are moving.	Analysis	This information is discussed and disclosed in Chapter 3 of the DEIS in the Range and Invasive Plants, Botany, Hydrology, and Soil Sections.
4	If the Desired Condition of these sites is different from the existing condition or the PNC, this desired condition should be described and an explanation given as to why this is different from the PNC.	Analysis	This information is part of the discussion of the existing condition found in Chapter 3 of the DEIS.

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4	A ground survey should be conducted prior to issuance of a Final Environmental Impact Statement (FEIS) to document the presence of any rare and/or sensitive plant species or their habitat.	Analysis/Action	The Botany Section in Chapter 3 of the DEIS outlines the field data collection and review for sensitive plants.
4	Weeds and non-native plants may reduce biological diversity and threaten sensitive fish and wildlife species populations. Many noxious weeds can out-compete native plants and produce a monoculture that has little or no plant species diversity or benefit to wildlife. Noxious weeds tend to gain a foothold where there is disturbance in the ecosystem, such as road building, fire, logging, or domestic livestock grazing activities. Livestock grazing has been identified both as (1) a cause of invasion or spread of noxious weeds and (2) a tool to suppress the spread of weeds once they already have been established. Activities that introduce and distribute nonnative plants continue to proliferate on many public lands. Weed prevention is both cheaper and more effective than restoration practices and should be pursued within the constraints of future actions by industry and other Federal agencies.	Action	This information is discussed and disclosed in Chapter 3 of the DEIS in the Range and Invasive Plants Section.
4	The Beaverhead-Deerlodge NF should work with other landowners adjacent to the Forest to prevent weed infestations from adjacent lands adversely affecting Forest lands and similarly to monitor, prevent, and control. weed infestations on the Forest.	Action	As identified in Chapter 3, in the Range and Invasive Plants section, this project will follow the direction outlined in the 2002 Beaverhead-Deerlodge National Forest Noxious Weed Control Environmental Impact Statement and Record of Decision.
4	EPA fully supports control of noxious weed infestations, particularly integrated weed management (e.g., effective mix of cultural, education and prevention, biological, mechanical, chemical management, etc.).	Statement, no cause-effect	Thank you for your support of controlling noxious weeds. See Ch. 3, Range and Invasive Plants section for details.
4	The EIS should identify the noxious weeds and exotic plants that occur in the resource area, and include a strategy for prevention, early detection of invasion, and control of weeds.	Action/Analysis	As identified in Chapter 3, in the Range and Invasive Plants Section, the list of noxious weeds and invasive plants can be found. The project will follow the direction outlined in the 2002 Beaverhead-Deerlodge National Forest Noxious Weed Control Environmental Impact Statement and Record of Decision.

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4	We encourage tracking of weed infestations, control actions, and effectiveness of control actions in a central weed database. Weed prevention is the most cost effective way to manage and control weeds by avoiding new infestations and spread of weeds, and thus, avoiding the need for subsequent weed treatments.	Analysis	This project will be following the direction for follow up in the 2002 Beaverhead-Deerlodge National Forest Noxious Weed Control Environmental Impact Statement and Record of Decision.
4	Weed-control strategies should include the use of weed-free certified hay, weed-free certified fill for road repair, weed-free certified seed for replanting, education, and other strategies.	Actions	This project will be following the direction for follow up in the 2002 Beaverhead-Deerlodge National Forest Noxious Weed Control Environmental Impact Statement and Record of Decision.
4	While we support use of herbicides for weed control where needed, we encourage prioritization of management techniques that focus on non-chemical treatments first, with reliance on chemicals being the last resort, since herbicides can be toxic and have the potential to be transported to surface or ground water following application. Herbicide drift into streams and wetlands could adversely affect aquatic life and wetland functions such as food chain support and habitat for wetland species. Water contamination concerns of herbicide usage be evaluated and mitigated.	Action	This project will be following the direction for follow up in the 2002 Beaverhead-Deerlodge National Forest Noxious Weed Control Environmental Impact Statement and Record of Decision.

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4	EPA recommends that no herbicide spraying occur in streams and wetlands or other aquatic areas (seeps, springs, etc.). Herbicides should be applied at the lowest rate effective in meeting weed control objectives and according to guidelines for protecting public health and the environment. The Montana Water Quality Standards include a general narrative standard "requiring surface waters to be free from substances that create concentrations which are toxic or harmful to aquatic life." Please also note that there may be additional pesticide use limitations that set forth geographically specific requirements for the protection of endangered or threatened species and their designated critical habitat. This information can be found at http://www.epa.gov/espp/bulletins.htm .	Action/Analysis	This project will be following the direction in the 2002 Beaverhead-Deerlodge National Forest Noxious Weed Control Environmental Impact Statement and Record of Decision.
4	For your information, the website for EPA information regarding pesticides and herbicides is http://www.epa.gov/pesticides/ . The National Pesticide Telecommunication Network (NPTN) website at http://nptn.orst.edu/tech.htm which operates under a cooperative agreement with EPA and Oregon State University and has a wealth of information on toxicity, mobility, environmental fate of pesticides that may be helpful (phone number 800-858-7378).	Statement, no cause-effect	Thank you for the references. See Ch. 3, Range and Invasive Plants section for details.

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4	If the proposed activities could affect threatened or endangered (T & E) species (e.g., grizzly bear, bull trout, wolf, lynx, etc.) the draft and final EIS should include the Biological Assessment and the final EIS should include the associated FWS Biological Opinion or formal concurrence for the following reasons: 1. NEPA requires public involvement and full disclosure of all issues upon which a decision is to be made; 2. The Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA strongly encourage the integration of NEPA requirements with other environmental review and consultation requirements (40 CFR 1502.25); and 3. The Endangered Species Act (ESA) consultation process can result in the identification of mandatory, reasonable, and prudent alternatives which can significantly affect project implementation.	Analysis	As identified in Chapter 3 of the DEIS for Aquatics, Botany, and Wildlife, the appropriate tool for analysis and disclosure with respect to Threatened or Endangered plants or animals will be used.
4	The potential effects on listed species are relevant to forest management activity decisions. Since both the Biological Assessment and the EIS must evaluate the potential impacts of the project on listed species, they can jointly assist in analyzing the effectiveness of project alternatives and mitigation measures. EPA recommends that the final EIS and Record of Decision not be completed prior to the completion of ESA consultation. If the consultation process is treated as a separate process, the Agencies risk FWS identification of additional significant impacts, new mitigation measures, or changes to the preferred alternative. If these changes have not been evaluated in the final EIS, a supplement to the EIS would be warranted.	Analysis	Thank you for your recommendation on the use of information from an ESA consultation. This project will follow the appropriate process for consultation with the Fish and Wildlife Service for Threatened and Endangered plants or animals.

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4	Grazing in areas of early or mid seral ecological status may lead to a reduction of biodiversity through habitat destruction, simplification, or fragmentation. In consideration of this, EIS analysis should include a quantitative assessment of the variety, abundance, and distribution of plant and animal populations and the ecologic processes through which they interact. Such a discussion should be presented on an ecosystem, or regional basis as well as specific to the analysis area.	Analysis	Chapter 3 of the DEIS discusses and discloses the effects of livestock grazing to terrestrial and aquatic plant and animal populations.
4	Biodiversity has become a significant issue in the northern Rocky Mountains. Maintenance of biodiversity can minimize the need for listing species as threatened or endangered. Upland and stream corridors should be retained in the planning area to help maintain genetic diversity.	Action	This project does not propose any modifications or changes to existing upland or stream corridors.
4	Biodiversity may be an important consideration when special habitats (i.e., wetlands, threatened and endangered species habitat) will be affected. The state of the art for this issue is changing rapidly. CEQ prepared guidance entitled, "Incorporating Biodiversity Considerations Into Environmental Impact Analysis Under the National Environmental Policy Act," http://ceq.hss.doe.gov/publications/incomorating_biodiversity.html .	Statement, no cause-effect	Thank you for the reference. This is discussed and disclosed in the Range, Botany, and Wildlife sections of Chapter 3 of the DEIS.
4	For potential multiple use opportunities to be fully realized, the relatively higher values for human visitation and wildlife habitats should be recognized within areas that are designated for visitation and recreation. A breakdown of the economic, cultural, and biological values in areas that are proposed for grazing would be helpful to the affected public groups and to decision-makers.	Analysis	Thank you for the recommendation. This project is not to determine the possibility of multiple use. The decision was made during the 2009 Forest Plan revision. Chapter 3 of the DEIS, Social, Economic, and Wildlife sections discuss and disclose the resource.

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4	NEPA requires that cumulative impacts be addressed as a summary of the individual impacts of this and all other past, present, and "reasonably foreseeable" future projects, including activities on private adjacent land irrespective of what agency/entity has decision-making authority or analysis responsibility. In January 1997 the President's Council on Environmental Quality (CEQ) published, "Considering Cumulative Effects Under the National Environmental Policy Act", guidance that provides a framework for analyzing cumulative effects. In May 1997 EPA published a document entitled, "Consideration of Cumulative Effects in EPA Review of NEPA Documents." This document can be found at http://www.epa.gov/compliance/resources/policies/nepalindex.html (Click on cumulative effects document title).	Statement, no cause-effect	Thank you for the references. Please see Chapter 3 of the DEIS for a discussion of cumulative effects for each resource.

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4	<p>EPA considers the following to be key steps in the development of adequate cumulative effects analyses: 1) Determine resources or ecosystem components resources most likely to be significantly impacted. Use appropriate analysis area boundaries for the resource and time period over which the cumulative effects have occurred or will occur. 2) Identify other past, present, and reasonably foreseeable future actions that have had or are expected to have impacts in the same area. Projects or activities evaluated should include those undertaken by all entities on all land ownerships in the analysis area. The baseline condition of the resources of concern should include a description of how conditions have changed over time and how they are likely to change in the future with and without the proposed action (include adequate evaluation vs. benchmark or baseline or reference conditions; include scientifically defensible threshold levels). 3) Expected impacts should be evaluated, regardless of the agency (Federal or non-Federal) or person that undertakes such actions. All the direct and indirect effects that are known, should be identified, a good faith effort should be made to explain the effects that are not known but are reasonably foreseeable. 4) Good cumulative effects analysis requires close coordination among agencies and the public to ensure that all past, present and reasonably foreseeable future actions are considered. Reasonably foreseeable future actions need to be considered even if they are not specific proposals. Criteria for excluding future actions from analysis regards whether they are "speculative." Future actions can be excluded from the analysis if: a) the action is outside the geographic boundaries or time frame established for the cumulative effects analysis; b) the action will not affect resources of concern that are the subject of the cumulative effects analysis; and c) including the action would be arbitrary. 5) Overall cumulative impacts should be determined, and comparisons of cumulative impacts for the proposed actions and the reasonable alternatives in relation to the no action alternative and/or an environmental reference point should be provided.</p>	Analysis	<p>Thank you for the references. Please see Chapter 3 of the DEIS for a discussion of cumulative effects for each resource.</p>

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4	Included in the cumulative effects discussion should be some detail on the methods used to assess and predict cumulative impacts, a discussion of what is known versus what is predicted for the outside or foreseeable projects, and the level of analysis used to anticipate and predict effects for outside projects.	Analysis	Chapter 3 of the DEIS under each resource, is a section called Methodology which discusses and discloses how their cumulative effects were conducted.
4	A summary listing of other projects occurring in the vicinity without the accompanying analysis is insufficient.	Analysis	This information is disclosed in Chapter 3 of the DEIS in a table outlining the past, present, and reasonably foreseeable future activities by land ownership.
4	The cumulative effects analysis should also include development of mitigation measures to reduce cumulative impacts.	Analysis	Chapter 2 of the DEIS discloses the list of mitigation measures that are applicable to this project.
4	Reducing cumulative effects requires repeated testing of the effectiveness of mitigation measures through monitoring. Cumulative effects analysis, therefore, should be an iterative process in which consequences are assessed repeatedly following incorporation of avoidance, minimization and compensation measures into alternatives.	Action/Analysis	We agree. As part of the monitoring disclosed for this project in Chapter 2, we believe that we will be able to assess the effectiveness of the actions. The proposed actions are ones that have been used on the Forest and by the Forest Service before and their efficacy is well known.
4	The EIS should include descriptions of current range management, including the size of allotments, number and location of pastures, number and kind of livestock, current grazing strategy, number of Animal Unit Months (AUMs) permitted, on-off periods, utilization standards, and number and kind of improvements (e.g., fencing, off stream watering).	Actions	This information is disclosed in the DEIS in Chapter 3, Range and Invasive Plants Section of the DEIS.
4	EPA suggests that the EIS disclose historic rangeland condition, comparing its current condition to past baseline conditions (pre-settlement condition and/or earlier, more degraded conditions), to evaluate how rangeland management practices have affected the resource.	Alternative	This information is disclosed in the Range and Invasive Plants Section of Chapter 3 in the description of each allotment.
4	Recreation conflicts with livestock grazing should be discussed.	Analysis	The discussion and analysis of user conflicts between recreationists and livestock grazing can be found in Chapter 3, Recreation Section of the DEIS.

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4	Recreation values are enhanced for recreation activities by maintaining and restoring natural landscapes. Impacts from cattle and sheep, their manures, eroded streams, degraded springs and riparian areas, and trampled wetlands all detract from the recreation experience and will reduce both the number of visitors to the Forest and reduce the value of their experiences. Education materials should prepare recreation visitors for livestock conflicts in areas that are grazed.	Action/Analysis	At this time the forest has no educational materials specific to recreation conflicts with livestock grazing in the area. The Beaverhead-Deerlodge Forest Plan in Chapter 4, under the Management Area descriptions identifies that visitors will encounter livestock in these areas. The Wisdom and Wise River District offices can also provide information on what to expect in the area.
4	The allotment management plans should address the number and value of recreation experiences with and without continued livestock grazing.	Action/Analysis	The number and value of recreation experiences without livestock is discussed and disclosed under the No Action Alternative in Chapter 3, Recreation Section. All other alternatives will discuss and disclose this information with livestock (See Chapter 3, Recreation Section).
4	Impacts that are not monetized should be quantified with other measures where possible or qualitatively described. For example, impacts to wildlife populations and habitat are difficult to monetize. By displaying the wildlife habitat and other natural resource benefits that now flow from grazing allotments, as well as the potential uses for both grazing and other uses, it is possible for the public and decision-makers to compare the economic benefits and costs alongside environmental and other effects. An analysis should answer the broad questions of how to best protect all human and natural resource values. Even if there is substantial uncertainty associated with the various effects, any information about the likelihood and direction of impacts would be helpful to reviewers of the document. A reasonable way to compare monetary and non-monetary impacts is a matrix that describes all impacts from various proposed actions or alternatives.	Analysis	We intend to address some financial impacts to the agency and the affected ranchers (See Chapter 3, Social/Economic Section). All other impacts will be described in other sections of the environmental analysis to address issues raised during scoping, (ones that are not monetized) and will be quantified with other measures where possible or will be qualitatively described. We will attempt to summarize the most significant financial and non-monetized impacts to demonstrate the tradeoffs expected by selecting various alternatives to help the deciding official and all reviewers of the document.

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4	Livestock grazing can result in adverse effects to wildlife species native to Western lands. Elk and deer have been shown to avoid livestock grazing allotments when cattle are present and grazing itself alters their habitats, particularly when over-grazed, in winter. If areas are over-grazed by cattle during the growing season, insufficient forage may remain for native ungulates in winter and wildlife may decrease their winter use of those lands.	Analysis	Impacts to elk from this project will be analyzed in detail in the DEIS Chapter 3, Wildlife Section, including avoidance issues, and impacts to winter range
4	Impacts to both rare and more common small mammals, birds, reptiles, and other native wildlife also are likely from livestock grazing in critical wildlife habitats and those species may be significant components necessary for ecosystem and forage health.	Analysis	Impacts to small mammals, birds, reptiles, and native wildlife are analyzed in relationship to providing diversity as required by NFMA in the DEIS in Chapter 3, Wildlife Section. General effects to wildlife habitats will be addressed in the DEIS in Chapter 3, Wildlife Section.
4	The EIS should demonstrate coordination with the U.S. Fish & Wildlife Service (FWS) and Montana Department of Fish, Wildlife & Parks (MDFWP) to address potential wildlife issues associated with the grazing alternatives including; wildlife displacement; impacts upon wildlife habitat; and impacts upon sensitive species and species of special concern (e.g., fisher, wolverine, yellowstone cutthroat trout, lynx, wolf, etc.), road access and wildlife security.	Analysis	Those agencies and people consulted with are listed in Chapter 4 of the DEIS. The outcome of those consultations and the analysis associated with wildlife issues are discussed and disclosed in Chapter 3 of the DEIS in the Wildlife Section.
4	Tradeoffs associated with various alternatives and grazing options in regard to effects on wildlife and their habitats should be described. For example, understanding the effects of livestock forage removal and competition with native wildlife is important information, needed by DEIS reviewers to understand the potential impacts to native wildlife species.	Analysis	Impacts to native wildlife are analyzed in relationship to providing diversity as required by NFMA in the DEIS (See Chapter 3, Wildlife Section). General effects to wildlife habitats will be addressed in the DEIS, Chapter 3 Wildlife Section.

Letter #	Comment/Concern	Type of Comment	Response to Comment/ How Comment was Addressed
4	A landscape scale perspective is generally appropriate to evaluate wildlife habitats and impacts unless the presence of biotic species that inhabit a wide range of landscapes indicates a need for a larger scale (e.g., wide-ranging predators or neo-tropical birds). Where indicator species are used, they should be representative of discrete, specific habitats or conditions.	Analysis	The temporal and spatial scale of analysis will be addressed in detail in the DEIS Chapter 3 for each resource. Indicator species as identified in the Forest Plan will be address where habitat is present.
5	The proposal is to manage based on PFC. I don't know if PFC has been done on the length of streams on the allotment making the AUL as proposed unknown.	Analysis	See Hydrology Section in Chapter 3 of the DEIS for stream monitoring methodology and protocol.
5	The proposed actions are written to restrictive in their effects on the management of the resources.	Analysis	The actions were proposed to help maintain and where appropriate improve the resources such as soil, water, and vegetation.
5	A proposed number of cow calf pairs of 250 should be a range from 125 to 300 to allow changes in stocking density.	Alternative	Thank you for your comment. Flexibility can be outlined through the Annual Operating Instructions (AOI) process. The permitted numbers which are the maximum numbers allowed are listed and used in the analysis.
5	A limit of 53 days should be unnecessary with a head month limit.	Alternative	We concur with your statement. As identified in the DEIS in Chapter 2, we list the maximum number of days to be used within the SOU and allow the permittee to decide when the best time would be to use the 53 days.
5	The documentation of cow calf doesn't allow bulls to be turned out or dry cows in the way this document reads (440 Head Months).	Alternative	The permitted numbers includes cows, calves, bulls, dry cows, horses, etc. This will be made clear in the narrative of actions common to all action alternatives.
5	There are only 3 water tanks on the allotment.	Statement, no cause-effect	We concur with your statement. This has been clarified to show that there is one solar pump without a separate tank. The water is pumped up to one tank and gravity fed to another.
5	Exclosure's - There was one at Pintler Creek campground. The exclosure around the camp ground was destroyed by bug kill timber removal.	Statement, no cause-effect	The fence existing at Pintler Campground is in need of repair and it will be the Forest Service responsibility to make the repairs.
5	The small pasture with recovery of the riparian area as a goal was not meant as an exclosure or as permanent (life of wire fence about 30 yrs).	Alternative	This will be a special area used once every three years for up to 20 head months for up to 14 days with variable entry times. See Ch. 2, pgs. XX to XX allotment specific actions tables for details.
5	The proposal to build e fence to 4 wire is fine, the word permanent and exclosure are not.	Action	Use the same language that we did for Bender and Pintler that these areas will be re-evaluated for potential use at a later date based on PFC.
5	As written the proposed actions are imposable to manage for natures dramatic changes. Looser wording would be better even though it is harder to define in court.	Alternative	We have built in under Design Features/Mitigation Measure found in Chapter 2 of the DEIS, to cover those natural events such as drought and flooding.

Letter #	Comment/Concern	Type of Comment	Response to Comment/ How Comment was Addressed
5	There are some questions of how much fence is on the allotment.	Analysis	Describe what is included in the fence miles (boundary, exclosure, drift, etc.).
6	I feel we need to take another look at the proposal to rest every 3 years for the Ruby Creek Horse Allotment. I request a meeting with Russ and Kevin Greenwood. I would like to go and see the allotment. I feel the cut back is not needed.	Action	Meeting is in the planning
7	I am working on submitting comments on the grazing plans for these drainages. My comments will likely be a few days late since they have to go through Bozeman first.	Statement, no cause-effect	Thank you for the information.
8	It is my opinion that riparian evaluations are not done to the PFT standards that are mentioned in your document. In your USDA /Forest Service TR1737-15 on page 16 it shows that PFC is the starting point for wildlife values and does not meet fisheries values. The goal for riparian areas should be Potential Natural Community (PNC).	Action/Analysis	We looked at the reference (USDA /Forest Service TR1737-15 on page 16) and this is not the protocol we used for this project. Proper Functioning Conditions (PFC's) for the streams within this project area were determined using the Riparian Management Objectives (RMO's) from the Forest Plan. The protocol we used to determine the hydrologic PFC is outlined in Chapter 3 in the Hydrology Section of the DEIS. PNC is a good indicator for the plant community within the riparian area, but to determine PFC for a stream reach we also need to consider channel morphology characteristics.
8	The health of riparian areas is of concern to me, and as I read through the introduction to this call for seeping comments I don't see adequate focus on this habitat. It is a given understanding that there is no more valuable habitat for wildlife than riparian areas. It is critical that riparian ecosystems be healthy.	Statement, no cause-effect	We agree that it is critical for the Riparian habitats to be healthy. The actions identified in the Proposed Action and Alternative 4 will help to maintain and where appropriate improve the habitat. Actions such as fencing, season of use changes, and the site specific Allowable Use Levels will improve protection for this habitat.
8	Sage grouse are mentioned, but no leks are mentioned, so I assume it is inferred sage grouse habitat. The sage grouse requirements are well documented, and should be evaluated as such.	Analysis	Sage grouse are discussed and analyzed in Chapter 3 of the DEIS in the Wildlife Section. At this time there are no known active leks on the Beaverhead-Deerlodge National Forest. However there are known leks outside the project area.
8	Determining PNC and ensuring that riparian areas reach PNC should be a priority and a focus on woody plant communities that exhibit vigor, multi-age, multi-species should be expected.	Action/Analysis	In this DEIS we discuss the serial stage and climax vegetation not PNC in riparian or other areas because our protocol requires us to use serial and climax.

Letter #	Comment/Concern	Type of Comment	Response to Comment/ How Comment was Addressed
8	Many of the streams in these allotments are 303d listed streams, and in looking at the causes of these impaired water ways one reason for partially supporting-aquatic life and cold water fisheries is riparian grazing. Livestock need to stay out of riparian areas. The only way is to fence them out and let the riparian -areas recover. There is ample science that supports this position.	Action	We concur with your statement. As identified in the DEIS in Chapter 2 the Proposed Action and Alternative 4 identify the actions being taken to protect the riparian areas.
8	Drought is huge, and not just this year. According to the Palmer Drought Severity Index (considered most effective for unirrigated cropland) the area of these allotments has a long history of drought. 2000-extreme drought, 2001 extreme, 2002 extreme, 2003 extreme, 2004 moderate, 2005 severe, 2006 normal, 2007 normal, 2008 normal, 2009 normal, 2010 normal, 2011 extreme, and 2012 extreme. Grazing permits as written are not responsive to these precipitation and temperature fluctuations, and although language can be written that says adjustments can be made, it is my opinion that these grazing permits should be ritten as prescriptive grazing allotments.	Analysis	As identified in the DEIS in Chapter 2 of the DEIS, under Design Features/Mitigation Measures, we have accounted for the different natural changes such as drought and flooding to make changes.
8	Monitoring of riparian should be data driven, not an ocular estimation.	Analysis	Please see the methodology section in the Range Section of Chapter 3 for monitoring of riparian areas.

Letter #	Comment/Concern	Type of Comment	Response to Comment/ How Comment was Addressed
9	Governor Creek and tributaries: Upper Governor Creek and tributaries including Indian Creek and unnamed tributaries harbor some the last remaining Westslope cutthroat trout populations in the upper Big Hole. Trampling of cutthroat redds may be an issue in these streams if livestock use overlaps with the incubation period of cutthroat eggs. These streams are also particularly sensitive to the potential impacts from grazing because of their low gradient meadow-like nature, as water is scarce later in the season and the lush grass of the riparian areas is attractive to livestock. Further, there are few willows or other woody vegetation to provide bank stability or cover for fish. Grazing Plans in this area should take these considerations into account to reduce potential impacts to cutthroat trout. Riparian exclosure fences, alteration of the timing of use, or other measures may be necessary to reduce potential impacts to these streams and cutthroat trout.	Actions	Thank you for your comment. Based on our review of the temperature data and modeled redd trampling, under Alternative 4 we have proposed an avoidance period of 7/1-8/25 for pasture 4, which includes Governor Creek, and Indian Creek. See the DEIS Ch. 2, for Alternative 4 details and in the Aquatics Section of Ch. 3 for analysis.
9	FWP encourages the Forest Service to continue to actively monitor grazing activities to ensure the proposed grazing plans satisfy the Forest Service's aquatic and riparian standards. If they do not, then we ask that you make necessary modifications to the grazing plans so that these standards can be met in the future.	Actions	Monitoring is part of the project as identified in the Proposed Action in Chapter 2 of the DEIS. The information will be used to remove the livestock or make additional changes in the Annual Operating Instructions.
9	FWP further encourages the Forest Service to seek ways to limit livestock impacts to riparian areas through fencing, development of off-stream watering sources and modifying use patterns including the timing of use, rest-rotation and number of AUMs to reduce potential impacts to aquatic and riparian resources.	Actions	As disclosed in the Proposed Action and Alternative 4, five allotments will have new infrastructure (fencing, water, etc.), seven will have changes in grazing systems, the Season of Use (SOU) will be reduced on five allotments, and the Head Months will be decreased on seven allotments from 8,365 to 5,666 total.

Letter #	Comment/Concern	Type of Comment	Response to Comment/ How Comment was Addressed
9	Three years ago, FWP split Deer/Elk Hunting District 321 into two districts along Highway 43 between Wisdom and Chief Joseph Pass. The district north of this line to Pintlar Creek is now Hunting District 334. Table 1 on page 4 of the scoping document should be updated to reflect this. Specifically, where Hunting District 321 is listed for Pintlar Creek and Mussigbrod Allotments, this should be changed to Hunting District 334.	Action	The Hunting units identified are those reflected in the 2009 Beaverhead-Deerlodge National Forest Land and Resource Management Plan (Forest Plan). For analysis purpose those are the units that will be used. In the DEIS in the Wildlife Section in Chapter 3, we have disclosed the change and how it was used in this project. The table was updated to reflect the change in Hunt Units.
9	Due to the fact that birds and small mammals can sometimes be trapped and drowned in water tanks, FWP recommends that any new tanks be fitted with wildlife escape ramps and existing tanks be retro-fitted with ramps. There are numerous designs and information that could be found on the internet about this mitigation measure.	Action	Thank you for your comment. Design feature number 1, 6, and 7 in Chapter 2 of the DEIS, has been updated to reflect this information for new and existing water features.
9	Where new fencing is to be constructed, FW P encourages the use of fencing that allows for big game passage and movement. Vanna Boccadori, Butte Area Wildlife Biologist, is available for field site visits and consultation to assist in this effort.	Action	Thank you for your comment. Design feature number 9, in Chapter 2 of the DEIS, identifies the direction the Forest follows for big game movement.
9	Pintlar Creek: near the upstream end of Pintlar Meadows there is significant bank instability and erosion. While it is unclear if the cause of this instability and erosion is grazing related, the current use by livestock is not aiding in the recovery of the area. FWP recommends the riparian area in this reach of stream be excluded from grazing through fencing or other means in the upper reaches of the meadow to allow the stream banks to revegetate. Active measures such as recontouring banks and planting willows and other vegetation may expedite the recovery of the area. It should be a high priority for restoration since this area is within the Anaconda-Pintlar Wilderness.	Actions	Thank you for your comment. Alternative 4 as described in the DEIS in Chapter 2, proposes to close this portion of the Pintlar for 10 years by reconstructing the existing fence. This will give this area and other stream banks time to begin recovery.

Letter #	Comment/Concern	Type of Comment	Response to Comment/ How Comment was Addressed
9	York Gulch: a riparian enclosure fence was constructed on York Gulch to keep cattle from accessing the riparian area of the stream. This fence, however, has not been effective at keeping cows out. It is unclear how cattle are gaining access to the stream, but this fence needs to be repaired and/or modified so it effectively excludes cattle from the stream. The fence also needs to be maintained and monitored each year to prevent cattle from entering the enclosure and to remove cattle that find their way in.	Actions	This is an improvement maintenance compliance issue and is covered through term grazing permit terms and conditions, and annual compliance monitoring. If cow's are continuing to access this area we will follow the process outlined in the Forest Service Handbook for Grazing Administration. If the cows are accessing the area from private lands, it will be covered under our 36 CFR 261.7, for trespass regulations for livestock grazing.

Appendix D - Forest Plan Consistency

Table D- 1 lists Forest Plan standards and explains how alternatives comply with the standard.

Table D- 2 lists additional management area standards and explains how alternatives comply with the standard.

Table D- 1 – Forest Plan Consistency

Resource	Standard Description	Reference/Explanation
Air Quality		
1	Meet smoke management requirements according to the Idaho/Montana Airshed Group Operating Guide.	See Chapter 2, alternative descriptions. There are no proposed actions involving any burning or smoke production.
American Indian Rights and Interests		
1	Heritage resources determined eligible for listing in the National Register of Historic Places will be preserved in place, or a consensus determination of “no adverse effect” will be reached with the Montana SHPO, the Advisory Council on Historic Preservation, and appropriate Indian tribes.	See Ch. 3 Heritage section. National Register eligible sites will be preserved in place or a consensus determination of No Adverse Effect. Cultural resources inventory shall be conducted prior to any ground disturbing activities to identify cultural resource. Under the No Grazing Alternative once cattle are removed from the analysis area, the sites will be preserved in place.
2	Unplanned discoveries of heritage resources during project implementation shall cause project operations in the area of the discovery to cease until analysis and evaluation of the heritage resources are completed, including consultation with the Montana SHPO and appropriate Indian tribes.	See Ch. 2, Design Features/Mitigation Measures and Ch.3 Heritage section. Should cultural resources be identified during the course of project implementation, operations will cease and the South Zone Archaeologist notified to complete resource documentation and evaluation for eligibility.
3	Heritage protection measures will be added to all appropriate contracts, sales documents, and special use permits.	See Ch. 2, Design Features/Mitigation. Under the No Grazing Alternative there would be no permit, therefore there would be nothing added. For all other alternatives language on appropriate heritage protection measures are included in all grazing permits.
Aquatic Resources		

Resource	Standard Description	Reference/Explanation
1	<p>Riparian Conservation Area (RCA) -1 Any activity in RCAs shall be designed to enhance, restore, or maintain the physical and biological characteristics of the RCA by implementing the following requirements. Activities in RCAs, that meet or exceed riparian management objectives (RMOs), must be designed to maintain existing stream function.</p> <p>Activities in RCAs that are not meeting RMOs shall include a restoration component, commensurate with the scope of the activity affecting the fishery, which trends towards accomplishing desired stream function, as part of the project.</p> <p>Activities in RCAs shall not result in long-term degradation to aquatic conditions. Limited short-term effects from activities in the RCA may be acceptable when outweighed by the long-term benefits to the RCA and aquatic resources.</p>	<p>The Design/Mitigation Features identified in Ch. 2 and the analysis in Ch.3 disclose that all alternatives will comply with this standard. The No Grazing Alternative will have the fastest rate of RCA recovery because it removes the form of disturbance from the RCA. The Current Management has a streambank disturbance designed to provide recovery at a very slow pace. The Proposed Action and Alternative 4 have more restrictive disturbance standards than the Current Management which will facilitate faster recovery. Alternative 4 has the added infrastructure such as fencing of stream area that are non-functioning, and an avoidance period for applicable allotments.</p>
2	Evaluate the risks of aquatic nuisance /exotic species introduction as part of project analysis (Scale – Project area).	Cattle are not thought to be vectors transporting Aquatic Nuisance Species
3	Snow courses, snow pack telemetry sites, and precipitation gauges will be protected from project activity including maintenance of an adequate buffer to maintain reliability (Scale – Project Area).	There are no activities proposed that might impact snow courses, snow pack telemetry sites or precipitation gauges in the Project area.
4	Watersheds that provide water for public water supplies (i.e. where waters are classified by the State of Montana as A-Closed or A-1) shall be managed to meet State water quality standards established for protection of drinking water quality and be consistent with applicable source water protection plans.	There are no municipal watersheds in the project area, so this project is consistent with this standard.
5	New activities within known sensitive amphibian breeding sites and natal areas during breeding and juvenile rearing periods will not cause a threat to population viability or a trend toward federal listing (Scale - Breeding sites and natal areas identified at the project level).	Since grazing has been conducted and permitted in the project area for decades, it is not considered a new management activity and is consistent with this standard
6	New management activities in Restoration Key Watersheds will be consistent with recovery of desired aquatic systems.	Since grazing has been conducted and permitted in the project area for decades, it is not considered a new management activity and is consistent with this standard

Resource	Standard Description	Reference/Explanation
7	Guidance defined in 16.2 – Section 1 (Permit Administration) of Beaverhead-Deerlodge Supplement No. 2209.13-98-1 to the Grazing Permit Administration Handbook Title 2209.13 will become mandatory rather than discretionary in Fish Key Watersheds when grazing contributes to degraded westslope cutthroat or bull trout stream conditions, and there is non-compliance with livestock grazing standards; or other aspects of livestock grazing permits terms and conditions.	Grazing will occur in fish key watersheds and thus will be mandatory in those allotment that are not meeting the new standards, have WCT or Bull Trout, and it is shown that grazing is contributing to degraded WCT or Bull Trout stream conditions. Thus this standard will be met.
8	New projects will have a beneficial effect or no measurable negative effect on westslope cutthroat or bull trout in Fish Key Watersheds. Short term negative effects are acceptable if outweighed by long term benefits.	Since grazing has been conducted and permitted in the project area for decades, it is not considered a new management activity and is consistent with this standard
9	Restoration projects should correct existing problems, not mitigate effects created by proposed activities (WR 3).	This project is not considered a restoration project, so it is consistent with this standard.
10	If the only suitable location for incident bases, camps, helibases, staging areas, helispots and other centers for incident activities are within the RCA, an exemption may be granted following a review and recommendation by a resource advisor. The line officer will prescribe the location, use conditions, and rehabilitation requirements with avoidance of adverse effects to native fish and sensitive aquatic species as a primary goal.	Because there are no incident activities occurring as part of this proposed project, the project is consistent with this standard.
11	Monitor water quality and aquatic resources in fish key watersheds where chemical retardant, foam, or additives are delivered to surface waters. Monitoring should take place as soon as conditions allow for safe access.	Because there are no fire suppression activities occurring as part of this project proposal, the project is consistent with this standard

Resource	Standard Description	Reference/Explanation
12	Require instream flows and habitat conditions for hydroelectric and other surface water development proposals to maintain or restore riparian resources, favorable channel conditions, fish passage, reproduction, and growth. Coordination will occur with the USFWS, other federal, state, and local agencies. (LH 1). During re-licensing of hydroelectric projects, provide written and timely license conditions to the Federal Energy Regulatory Commission (FERC) , that require fish passage and flows and habitat conditions that maintain/restore riparian resources and channel integrity. Coordinate re-licensing projects with the appropriate state agencies.	Because there are no hydroelectric or other surface water development activities proposed, the project is consistent with this standard.
13	Locate new hydroelectric ancillary facilities for existing permits, outside RCAs. For existing ancillary facilities inside the RCA essential to proper management, provide recommendations to FERC to assure the facilities would not prevent attainment of the desired stream function and adverse effects on native fish and sensitive aquatic species are avoided. Where these objectives cannot be met, provide recommendations to FERC that such ancillary facilities should be relocated. Locate, operate, and maintain hydroelectric facilities that must be located in RCAs to avoid effects that would retard or prevent attainment of the desired stream function and avoid adverse effects on native fish and sensitive aquatic species (LH 2).	Because there are no hydroelectric ancillary facilities proposed, the project is consistent with this standard
14	Grazing practices that prevent attainment of desired stream function, or are likely to adversely affect threatened or endangered species, or adversely impact sensitive species, are modified to attain desired stream function or population objectives (GM 1).	The Design/Mitigation Features identified in Ch. 2 and the analysis in Ch.3 disclose that all alternatives will comply with this standard. The No Grazing Alternative will have the fastest rate of RCA recovery because it removes the form of disturbance from the RCA. The Current Management has a streambank disturbance designed to provide recovery at a very slow pace. The Proposed Action and Alternative 4 have more restrictive disturbance standards than the Current Management which will facilitate faster recovery. Alternative 4 has the added infrastructure such as fencing of stream area that are non-functioning, and an avoidance period for applicable allotments.

Resource	Standard Description	Reference/Explanation
15	Locate new livestock handling and/or management facilities outside of Riparian Conservation Areas. For existing livestock handling facilities inside Riparian Conservation Areas, assure facilities do not prevent attainment of desired stream function. Relocate or close facilities where these objectives cannot be met (GM 2).	Existing fences and stock water facilities are designed to protect RCAs and limit cattle access to RCAs so these comply with this standard.
16	Limit livestock trailing, bedding, watering, salting, loading, and other handling efforts to those areas and times that would not retard or prevent attainment of desired stream function or adversely affect native fish and sensitive aquatic species (GM 3).	The Design/Mitigation Features identified in Ch. 2 and the analysis in Ch.3 disclose that all alternatives will comply with this standard. The No Grazing Alternative will have the fastest rate of RCA recovery because it removes the form of disturbance from the RCA. The Current Management has a streambank disturbance designed to provide recovery at a very slow pace. The Proposed Action and Alternative 4 have more restrictive disturbance standards than the Current Management which will facilitate faster recovery. Alternative 4 has the added infrastructure such as fencing of stream area that are non-functioning, and an avoidance period for applicable allotments.
17	If a notice of intent indicates a mineral operation would be located in an RCA, the effects of the activity on native fish and sensitive aquatic species is considered in the determination of significant surface disturbance pursuant to 36 CFR 228.4. For operations in an RCA, operators take all practicable measures to maintain, protect, and rehabilitate fish and wildlife habitat, which may be affected by the operations. Bonding requires the cost of stabilizing, rehabilitating, and reclaiming the area of operation will be covered (MM 1).	Mineral operations are not in the proposed project, so the project is consistent with this standard.
18	Where no alternative to placing facilities in RCAs exists, facilities are located and constructed in ways that avoid impacts to RCAs and streams and adverse effects on native fish and sensitive aquatic species. Where no alternative to road construction exists, roads are kept to the minimum necessary for the approved mineral activity. Roads no longer required for mineral or land management activities are closed, revegetated, or obliterated (MM 2).	Mineral operations are not in the proposed project, so the project is consistent with this standard.

Resource	Standard Description	Reference/Explanation
19	<p>Solid and sanitary waste facilities in RCAs are prohibited. If no alternative to locating mine waste (waste rock, spent ore, tailings) facilities in RCAs exists, releases can be prevented, and stability can be ensured, then (MM 3):</p> <p>Analyze the waste material using the best conventional sampling methods and analytic techniques to determine its chemical and physical stability characteristics.</p> <p>Locate and design the waste facilities using the best conventional techniques to ensure mass stability and prevent the release of acid or toxic materials. If the best conventional technology is not sufficient to prevent such releases and ensure stability over the long term, prohibit such facilities in Riparian Conservation Areas.</p> <p>Monitor waste and waste facilities to confirm predictions of chemical and physical stability, and make adjustments to operations as needed to avoid adverse effects to native fish and sensitive aquatic species and to attain desired stream function.</p> <p>Reclaim and monitor waste facilities to assure chemical and physical stability and re-vegetation to avoid adverse effects to native fish and sensitive aquatic species, and to attain the desired stream function.</p> <p>Reclamation bonds are adequate to ensure long-term chemical and physical stability and successful re-vegetation of disturbed areas and mine waste facilities.</p>	Mineral operations are not in the proposed project, so the project is consistent with this standard.
20	Sand and gravel mining and extraction within RCAs are prohibited (MM 5).	Mineral operations are not in the proposed project, so the project is consistent with this standard.
21	Provide and maintain fish passage at new, replacement, and reconstructed road crossings of existing and potential fish- bearing streams, unless barriers are determined beneficial for native fish and/or sensitive aquatic species conservation (RF 5).	Reconstruction of road crossings are not in the proposed project, so the project is consistent with this standard.
22	Complete watershed analysis prior to constructing roads or landings in RCAs within fish or restoration key watersheds (RF 2a).	Road and landing construction are not in the proposed project, so the project is consistent with this standard

Resource	Standard Description	Reference/Explanation
23	Where adjustments of recreation use impacts on desired stream function are not successful terminate activity or occupancy (RM 1).	Recreation use is not in the proposed project, so the project is consistent with this standard.
24	Chemical pesticides and toxicants will be applied in a manner consistent with desired stream function and avoids adverse biological effects (RA 3).	Chemical pesticides and toxicants use is not in the proposed project, so the project is consistent with this standard.
25	Project related storage of fuels and toxicants within Riparian Conservation Areas is prohibited. Refueling within Riparian Conservation Areas is prohibited except for emergency situations, in which case refueling sites must have an approved spill containment plan (RA 4).	There are no project related storage of fuels and toxicants, so the project is consistent with this standard.
26	Fuelwood cutting and salvage in RCAs will not prevent or retard attainment of desired stream function (TM 1a).	Fuelwood cutting and salvage are not in the proposed project, so the project is consistent with this standard.
27	Vegetation and/or fuel management prescriptions in RCAs will be for the purpose of restoring, enhancing, or protecting the physical and biological characteristics of the RCA including Riparian Management Objectives. Vegetation and/or fuel treatments, for the purpose of protecting urban interface, private property and other investment, and public safety in RCA's shall be designed so as not to prevent the attainment of desired stream function (TM 1).	Vegetation and fuel management are not in the proposed project, so the project is consistent with this standard.
28	Complete the evaluation of on-going activities in Fish Key Watersheds. Activities or conditions inconsistent with goals and objectives will be identified within 3 years and timeframes for implementation of mitigation will be identified.	Tenmile creek in portion of fish key watershed and covered in Deep Creek watershed analysis.
Fire Management		
1	Wildland fire use plans shall be developed in coordination with the appropriate county, state, tribal, and other federal agencies.	Fuel management is not in the proposed project, so the project is consistent with this standard.
2	Wildland fire use is an available tool for all unplanned ignitions.	Fuel management is not in the proposed project, so the project is consistent with this standard.
Heritage Resources		

Resource	Standard Description	Reference/Explanation
1	Heritage resources determined eligible for listing in the National Register of Historic Places will be preserved in place, or a consensus determination of “no adverse effect” will be reached with the Montana SHPO, the Advisory Council on Historic Preservation, and appropriate Indian tribes.	No TCP’s have been identified within the analysis area.
2	Unplanned discoveries of heritage resources during project implementation shall cause project operations in the area of the discovery to cease until analysis and evaluation of the heritage resources are completed, including consultation with the Montana SHPO and appropriate Indian tribes.	Cultural resources inventory shall be conducted prior to any ground disturbing activities to identify cultural resource. National Register eligible sites will be preserved in place or a consensus determination of No Adverse Effect. Should cultural resources be identified during the course of project implementation, operations will cease and the South Zone Archaeologist notified to complete resource documentation and evaluation for eligibility.
3	Heritage protection measures will be added to all appropriate contracts, sales documents, and special use permits.	Language on appropriate heritage protection measures are included in all grazing permits.
Infrastructure		
1	Facility Design: Use the Rocky Mountain and Great Plains sections of the Built Environment Image Guide, (USDA FS-710, Dec. 2001), or equivalent for development of recreation sites, administrative sites, and approval of special use structures and facility design.	The project does not propose any new buildings, thus this standard is met. Specific design criteria for scenery for fences, water tanks, and pipelines are disclosed in Ch. 2 and will allow the proposed infrastructure to meet scenery standards.
Lands		
1	Energy transmission facilities shall be located only in designated utility corridors shown on the Utility Corridor and Communication Site map at the end of Chapter 3. Energy gathering or distribution facilities may be located outside of designated corridors.	Energy transmission facilities are not in the proposed project, so the project is consistent with this standard.
2	Wireless telecommunication facilities shall be located in designated communication sites and utility corridors shown on the Utility Corridor and Communication Site map. Exceptions may be made for non-ground disturbing temporary facilities that are in place for less than one year.	Wireless telecommunication facilities are not in the proposed project, so the project is consistent with this standard.

Resource	Standard Description	Reference/Explanation
3	Comply with direction in USDA Forest Service Designation of Section 368 Energy Corridors on National Forest System Land in 10 Western States Decision by Secretary of Agriculture To Amend Land Management Plans Described as the Environmentally Preferred Alternative January 14, 2009.	Energy corridors are not in the proposed project, so the project is consistent with this standard.
Livestock Grazing		
1	<p>The interim standards in Table 6 apply to livestock grazing operations unless or until specific long-term objectives, prescriptions, or allowable use levels have been designed through individual resource management plans or site-specific NEPA decisions; for example, revised allotment management plans or wilderness management plans. These interim standards are designed to prevent reduction of existing water quality or physical or biological functions of riparian-wetland areas from management activities. The standards are a means to assure use remains at levels that maintain existing riparian-wetland function. The maximum utilization, minimum stubble height or minimum streambank standards may be incorporated in livestock annual operating plans. In streams containing 90% or greater, genetically pure westslope cutthroat trout (or other genetic purity requirement as defined by Montana State Westslope Cutthroat Trout Conservation Strategy or Federal Recovery Plan), managers must use the interim standard for WCT in Table 6. Interim standards apply to the following situations:</p> <p>Any allotment management plan lacking riparian management objectives and guides designed specifically for that allotment. Any riparian recreation site used primarily by recreation stock.</p> <p>Any outfitter operation where stock are grazed in a riparian area that lacks a specific riparian grazing strategy in the annual operating plan.</p>	As disclosed in the Analysis section of the DEIS for Range in Ch. 3, the implementation of the actions being proposed and the mitigation/design features for all alternatives except the No Grazing alternative, would result in beneficial effects to rangeland vegetation, which would help maintain, or improve, existing riparian-wetland function and rangeland health, and thus this standard would be met. Because the No Grazing alternative involves the removal of livestock from the project area, this would result in beneficial effects to rangeland vegetation, which would help maintain, or improve, existing riparian-wetland function.

Resource	Standard Description	Reference/Explanation
2	Domestic livestock grazing will not be allowed in developed recreation sites unless specifically permitted.	As disclosed in Ch.3 of the DEIS in the Rang and Invasive Plans and Recreation sections, developed recreation sites are fenced and not considered as suitable range. With the implementation of the design/mitigation features and actions being proposed, this standard will be met. Under the No Grazing alternative no livestock grazing would occur within the project area, thus meeting this standard.
3	Allotment management plans will identify specific criteria for special areas, such as wet meadows, where limiting grazing at certain times of the years or under certain conditions is necessary to protect resources.	The <i>No Grazing</i> alternative would be consistent with this standard because the livestock would be removed, thus not impacting special area or needing to identify special areas. The <i>Current Management</i> alternative would not meet this standard because special criteria would not be identified to limit grazing use on special areas such as wet meadows. The <i>Proposed Action</i> alternative and Alternative 4 would be consistent with this standard because proposed allowable use levels, and other proposed actions under this alternative would be identified to limit grazing use of special areas where needed. <i>See Ch. 2 for design/mitigation features, actions being proposed, and Ch. 3 Range Analysis for specific details.</i>
4	Base Property Requirement - ownership of facilities and land capable of producing feed for livestock 50% of the time permitted livestock are not grazing on National Forest, will be demonstrated before issuing grazing permits.	Under the <i>No Grazing</i> alternative term grazing permits would be terminated; therefore, there would be no need for base property requirements. The <i>Current Management, Proposed Action and Alternative 4 alternatives</i> would be consistent with this standard because range permittees would be required to meet qualification requirements outlined in FSH 2209.13 before grazing permits are reissued.
Minerals, Oil, and Gas		
1	Use the following table to describe the lease terms and prescribe stipulations for the Beaverhead Unit. Appendix B contains detailed language. (see Forest Plan Chapter 3, page 27).	Actions associated with minerals, oil, and gas is not in the proposed project, so the project is consistent with this standard.
2	Any new road constructed for oil and gas activity will be obliterated unless the road is needed as part of the Forest Service permanent transportation system.	Actions associated with minerals, oil, and gas, including new roads is not in the proposed project, so the project is consistent with this standard.
3	All drill pads will be obliterated.	Actions associated with minerals, oil, and gas, including drill pads is not in the proposed project, so the project is consistent with this standard

Resource	Standard Description	Reference/Explanation
Recreation and Travel Management		
1	Permanent road construction is not allowed in summer non- motorized allocations or in areas evaluated for wilderness potential.	Actions associated with road construction are not a part of the proposed project, so the project is consistent with this standard.
2	Motorized vehicles are not allowed in summer or winter non- motorized allocations except for permitted or administrative use.	Actions associated with changes in motorized vehicle use in summer or winter non-motorized allocations are not a part of the proposed project, so the project is consistent with this standard.
3	<p>Restrict year-round, wheeled motorized travel to designated routes or areas.</p> <p>Where routes have not been designated through site specific travel planning, restrict motorized vehicles to open motorized routes identified on the Forest Plan Interim Roads and Trails Inventory GIS Layer displayed on page 53.</p> <p>Motorized wheeled travel on routes leading to identified dispersed campsites is allowed. Exceptions may be authorized for:</p> <p>Motorized wheeled cross-country travel for any military, fire, search and rescue, or law enforcement vehicle used for emergency purposes.</p> <p>Authorized motorized wheeled cross-country travel is limited to official administrative duties or emergency services such as, fire suppression, prescribed fire, noxious weed control, vegetation restoration, surveying, and law enforcement.</p> <p>Motorized wheeled cross-country travel for other government entities on official administrative business as authorized through the normal permit processes or a memorandum of understanding.</p> <p>Motorized wheeled cross-country travel for lessees and permittees limited to terms described in the federal lease or permit.</p>	Actions associated with changes in year-round, wheeled motorized travel is not a part of the proposed project, so the project is consistent with this standard.
4	Extreme sport courses such as motocross trails, technical mountain bike courses, and motor vehicle challenge routes will not be constructed.	Actions associated with extreme sport courses such as motocross trails are not a part of the proposed project, so the project is consistent with this standard.

Resource	Standard Description	Reference/Explanation
5	New outfitter and guide permits or increases in existing permits, will be only be made based on need, administrative capability, and a suitable mix of guided and non-guided public capacity determined by a forestwide capacity study. This mix may vary by type of activity and/or season of use. Capacity validation will be made on an area-specific basis when the general forestwide capacity determination does not adequately address the management situation. Heli-skiing operations will not be permitted.	Actions associated with new outfitter and guide permits or increases in existing permits are not a part of the proposed project, so the project is consistent with this standard.
6	New recreation resorts or residence tracts will not be permitted, nor will permits be issued for unoccupied tracts or lots.	Actions associated with new recreation resort or residence tracts are not a part of the proposed project, so the project is consistent with this standard.
7	Manage summer non-motorized allocations for either a primitive or semi-primitive non-motorized setting from May 16 thru December 1, (page 54).	Actions associated with changes in summer non-motorized allocations are not a part of the proposed project, so the project is consistent with this standard.
8	Manage winter non-motorized allocations for a primitive or semi- primitive non-motorized setting from December 2 thru May 15, (page 55).	Actions associated with changes in winter non-motorized allocations are not a part of the proposed project, so the project is consistent with this standard.
9	Manage summer backcountry allocations for a semi-primitive motorized setting from May 16 thru December 1, (page 54).	Actions associated with changes in summer backcountry allocations are not a part of the proposed project, so the project is consistent with this standard.
10	Manage recommended Wilderness for primitive or semi- primitive non-motorized settings and protect Wilderness character.	Actions associated with changes in winter non-motorized allocations are not a part of the proposed project, so the project is consistent with this standard.
11	Commercial timber harvest is prohibited in recommended Wilderness.	Actions associated with commercial timber harvest are not a part of the proposed project, so the project is consistent with this standard.
12	Road construction is not permitted in recommended Wilderness.	Actions associated with road construction are not a part of the proposed project, so the project is consistent with this standard.
13	Wheeled or motorized vehicles designed for the primary purpose of transporting people, except for wheel chairs, are prohibited in recommended wilderness except for permitted or administrative uses.	Actions associated with wheeled or motorized vehicles in Wilderness areas are not a part of the proposed project, so the project is consistent with this standard.
Scenic Resources		

Resource	Standard Description	Reference/Explanation
1	Where no minimum SIOs are identified by landscape or management area - prior to the completion of a forestwide scenic integrity map – the objectives for scenery shall be determined by procedures outlined in the Landscape Aesthetics Handbook, Agricultural Handbook No. 701. The analysis shall use the Scenic Concern Level List in Appendix A, Scenic Attractiveness GIS layer, and the Scenery Integrity Level Matrix below. (See Forest Plan Chapter 3, page 33).	Under the <i>No Grazing alternative</i> there would be no grazing activities. Existing scenic integrity would be maintained and would improve once facilities are no longer in place. In the remaining three alternatives the existing scenic integrity level is maintained and or improved depending on the specific design/mitigation feature such as using earth tone colors for the water tanks. The SIO's will also be met or exceeded in the short and/or long term. See Ch.3 Scenery analysis.
2	Projects in non-motorized and summer backcountry allocations will be designed to meet a minimum SIO of Moderate. Use the Scenic Concern Level List in Appendix A, Forestwide Scenic Attractiveness GIS layer, and Scenic Integrity Level Matrix above to determine a site specific SIO. Project-level analysis may determine a higher SIO to be appropriate.	Under the <i>No Grazing alternative</i> there would be no grazing activities. Existing scenic integrity would be maintained and would improve once facilities are no longer in place. In the remaining three alternatives the existing scenic integrity level is maintained and or improved depending on the specific design/mitigation feature such as using earth tone colors for the water tanks. The SIO's will also be met or exceeded in the short and/or long term. See Ch.3 Scenery analysis.
3	Projects in foreground areas of scenic byways, national scenic trails or wild and scenic rivers will be designed to meet the SIO of at least High.	Under the <i>No Grazing alternative</i> there would be no grazing activities. Existing scenic integrity would be maintained and would improve once facilities are no longer in place. In the remaining three alternatives the existing scenic integrity level is maintained and/or improved depending on the specific design/mitigation feature such as using earth tone colors for the water tanks. The SIO's will also be met or exceeded in the short and/or long term. See Ch.3 Scenery analysis.
Soils		
1	The most current Region 1 Soil Quality Standards are adopted as forest plan soil standards.	Soil detrimental disturbance is currently well under the threshold of 15% and is expected to remain relatively constant at the current level under all alternatives, thus meeting this standard. See Ch. 3, Soils section for supporting analysis.
2	Ground based yarding shall not be allowed on slopes exceeding 35% without site-specific environmental analysis that shows damage is unlikely and soil goals and objectives can be met.	Actions associated with ground based yarding are not a part of the proposed project, so the project is consistent with this standard.

Resource	Standard Description	Reference/Explanation
Special Designations		
1	Research Natural Areas or Special Interest Areas will be managed in accordance with their individual management plans in addition to the regulations (36 CFR 251.23), and the policy (FSM 4063 and 2370) pertaining to these areas.	There are no Research Natural Areas or Special Interest Areas identified in the project area. Actions associated with Research Natural Areas or Special Interest Areas are not a part of the proposed project, so the project is consistent with this standard. See Ch. 2 for details.
2	Streams determined to be Eligible for protection under the Wild and Scenic Rivers Act will be protected to maintain Outstandingly Remarkable Values. Standards for protection are provided in Forest Service Manual 1909.12.8.2.	There are no streams determined to be eligible for the Wild and Scenic River Act in the project area. Actions associated with eligible streams are not a part of the proposed project, so the project is consistent with this standard. See Ch. 2 for details.
Timber Management		
1	On lands suitable for timber production, even aged harvest may occur only upon a finding that it is the appropriate and optimum method for the timber type and will contribute to meeting vegetative objectives for the site. Such harvest must be consistent with the protection of soil, watershed, fish, wildlife, recreation, and aesthetic resources. Harvest areas shall be blended to the extent practicable with the natural terrain.	Actions associated with lands suitable for timber production are not a part of the proposed project, so the project is consistent with this standard.
2	On lands suitable for timber production, the maximum size of openings created by one regeneration harvest operation shall not exceed 40 acres. Exceptions can be made where a natural event, such as fire, insect, disease, or windthrow created an undesirable opening. A regeneration harvest larger than 40 acres may be allowed after public notice, and review and approval by the officer one level above the responsible official. This only applies to harvest on suitable timber lands for timber production activities.	Actions associated with lands suitable for timber production are not a part of the proposed project, so the project is consistent with this standard.

Resource	Standard Description	Reference/Explanation
3	On lands suitable for timber production, even aged management regeneration harvest shall not occur unless the stand has reached the culmination of mean annual increment. An exception occurs where the primary purpose of treatment is for wildlife enhancement, visual enhancement, riparian area improvement or public safety or protection of property. The culmination of mean annual increment of growth requirement does not apply to cutting for experimental or research purposes; to non-regeneration harvests, such as thinning or other stand improvement measure; to management of uneven aged stands or to stands under uneven aged silvicultural system; and to salvage or sanitation harvesting of timber stands which are substantially damaged by events such as fire, insects, disease or windthrow. This only applies to harvest on suitable timber lands for timber production activities.	Actions associated with lands suitable for timber production are not a part of the proposed project, so the project is consistent with this standard.
4	Replace natural barriers to livestock movement removed by harvest activities with some other barrier.	Actions associated with lands suitable for timber production such as the replacement of natural barriers for livestock once timber has been removed, are not a part of the proposed project, so the project is consistent with this standard. See Appendix A1 for location of drift fences.
5	When trees are cut to achieve timber production objectives the cuttings shall be made in such a way as to assure that the technology and knowledge exists to adequately restock the lands.	Actions associated with lands suitable for timber production are not a part of the proposed project, so the project is consistent with this standard.
6	The following Timber Harvest Classification Protocol establishes where timber harvest is not allowed and where timber harvest is permitted to meet other resource objectives. (See Forest Plan Chapter 3, pages 39-42.	Actions associated with lands suitable for timber production are not a part of the proposed project, so the project is consistent with this standard.

Resource	Standard Description	Reference/Explanation
Vegetation		
1	Mechanical vegetation treatments and prescribed fire in old growth stands (see Glossary) do not reduce the age and number of large trees and basal area below the 'minimum criteria' required for Eastern Montana old growth in Green et al., Table 3. Removing hazardous fuels within old growth stands is allowed if conducted in a manner that meets this requirement. This requirement does not apply to hazard tree removal and other public safety needs.	Actions associated with lands suitable for timber production, including those suitable for mechanical vegetation treatment are not a part of the proposed project, so the project is consistent with this standard.
2	Silvicultural examinations and prescriptions will be required prior to timber manipulation or silvicultural treatment. Exceptions are allowed for removal of trees that block vision along roads, removal of hazard trees, clearing of rights-of-way, clearing for mineral development, Christmas tree sales in encroachment areas, and removal of firewood.	Actions associated with lands suitable for timber production such as silvicultural examinations and prescriptions are not a part of the proposed project, so the project is consistent with this standard.
Wildlife Habitat		
1	From October 15 to December 1 Hunting Units that exceed the open motorized road and trail density objective will have no net increase in designated open motorized road and trail mileage (Scale - Hunting Units on National Forest lands).	All of the alternatives are consistent with Plan direction for this standard because it does not change open motorized road and trail mileage.
2	Landscapes that exceed the open motorized road and trail objective will have no net increase in designated open motorized road and trail mileage (Scale – Landscapes on National Forest System lands).	All of the alternatives are consistent with Plan direction for this standard because it does not change open motorized road and trail mileage.

Resource	Standard Description	Reference/Explanation
3	<p>Mechanical vegetation treatments will:</p> <p>Retain all snags greater than 20 inches dbh (except for hazard trees).</p> <p>In addition, do not reduce the number of snags greater than 15.0 inches dbh per acre in treatment units below the levels shown in Table 12, calculated as an average for the total treatment unit acreage in a project area. This calculation allows variability among treatment units, which produces a more natural clumpy distribution. (See Forest Plan Chapter 3, page 48).</p> <p>If there are insufficient snags in treatment units, live trees in the same size class must be retained and counted towards the snag requirement. These would be in addition to any requirements of standard 4.</p> <p>These per acre requirements do not apply to the treatment units if analysis shows the levels of snags will be met for the project area as a whole.</p> <p>If, in the project area as a whole, there are insufficient live trees and/or snags greater than 15.0 inches dbh, the standard is deemed complied with by retention of the existing live trees and/or snags greater than 15.0 inches dbh in the treatment units.</p>	<p>All of the alternatives are consistent with Plan direction for this standard because this project does not propose any mechanical vegetation treatments.</p>
4	<p>Do not reduce the number of live trees greater than 10.0 inches dbh per acre in regeneration harvest treatment units (to provide future snags) below the levels shown in Table 13 on the next page [of the Forest Plan]. (See Forest Plan Chapter 3, page 49).</p>	<p>All of the alternatives are consistent with Plan direction for this standard because this project does not propose removal of live trees.</p>
5	<p>Sheep allotments in the Gravelly Landscape that become vacant will be closed to sheep grazing or the vacant allotment may be used by an existing Gravelly Landscape sheep permittee, with no increase in permitted use (Scale - Gravelly Landscape).</p>	<p>All of the alternatives are consistent with Plan direction for this standard because this project has no sheep allotments and is not located in the Gravelly Landscape; it is in the Big Hole Landscape. See Ch. 2 for details.</p>
6	<p>The Grizzly Bear Amendment applies to only the Beaverhead- portion of the BDNF and is incorporated as Appendix G (USDA 2006b).</p>	<p>See Wildlife section of the DEIS for updated information on the projects compliance with new</p>

Resource	Standard Description	Reference/Explanation
7	The Northern Rockies Lynx Management Direction (2007) is included in Appendix G, and will apply to the BDNF as described in the Northern Rockies Lynx Management Record of Decision.	All the alternatives are consistent with the NRLMD. See Appendix B 7 for details and the wildlife section in Ch. 3
8	Within 18 kilometers of documented active or inactive sage grouse leks, do not remove sagebrush within 300 meters of riparian zones, meadows, lakebeds or farmland, unless site-specific analysis indicates such removal promotes achievement of the sagebrush habitat goal. Springs developed for livestock water in these areas must be designed to maintain free water and wet meadows.	All the alternatives are consistent with this standard as this project does not remove sagebrush.
9	Mitigate, through avoidance or minimization, management actions around known active nest sites of threatened, endangered, proposed candidate, and sensitive bird species, if those actions would disrupt reproductive success during the nesting period. During project planning consider applicable science regarding species needs (such as nesting periods and buffers) and site-specific considerations. This standard also applies to Great Gray Owl and Northern Goshawk.	As identified in Ch. 2 for the <i>Proposed Action and Alternative 4</i> , there are specific design/mitigation features (numbers 9 and 10) to minimize actions around threatened, endangered, proposed candidate, and sensitive bird species.
10	When closing entrances to abandoned mines, determine whether suitable habitat for bats exists, and where it does, provide access for bats.	This project does not propose any actions associated with closing of abandon mines, thus it is in compliance with this standard.
11	Implement the most current National Fish and Wildlife Service Terms and Conditions for wolves in the northwest Montana recovery area (west of I-15 and north of I-90) until the gray wolf is delisted. (See Appendix I)	See Ch. 3 for wolf analysis. All alternatives are consistent with the National Fish and Wildlife Service requirements for the wolf.
12	Provide habitat for species requiring large woody debris in forested habitat types by retaining post project outcomes for regeneration harvest of the following: (Scale project) Lodgepole cover type-6 pieces/ac with small end diameter equal to or greater than 8 inches and 10-ft long. Douglas-fir cover type-6 pieces/ac with small end diameter equal to or greater than 12 inches and 10-ft long.	All of the alternatives are consistent with Plan direction for this standard because this project does not propose any regeneration harvest activities.

Table D- 2 – Forest Plan Management Area Standards

Landscape	Management Area	Resource	Standards in addition to Forestwide Standards	Reference/Explanation
Big Hole	Ruby	Heritage	Protect and Interpret sites around the Pioneer Town site.	See Ch. 2, allotment specific alternative descriptions, and Ch. 3 for specific analysis. As a priority site, this receives routine monitoring at least once every five years under the No Grazing and Current Management Alternatives. Under the Proposed Action and Alternative 4, it would be monitored once every two years to five years.
Big Hole	Anaconda Pintler Wilderness	Wilderness	Those identified in the Anaconda Pintler Wilderness to protect wilderness character as identified in the Wilderness Act and the Anaconda Pintler Wilderness Plan	Under the <i>No Grazing</i> alternative the removal of cattle will allow the character to improve over time and meeting the standards in the plan. The <i>Current Management and Proposed Action</i> alternatives will maintain the wilderness character. With the implementation of the design/mitigation features and limiting livestock access to the wilderness and resting Pintlar Meadows will have a positive effect on the wilderness character.

Appendix E- Responses to DEIS Comments

Letter No.	Commenter
1	Vince Collucci
2	Jean Public
3	Jackson Ranches, Inc.
4	Native Ecosystems Council/Alliance for the Wild Rockies
5	George Wuerthner/Alliance for the Wild Rockies - amended ²
6	Hans Humbert/Dell Bacon Ranch
7	EPA – Region 8
8	Alliance for the Wild Rockies/Western Watersheds Project/Native Ecosystems Council/Montana Ecosystems Defense Council
9	John, Kathy, Carl & Ellis Lewis
10	Western Watersheds Project/Native Ecosystems Council/Alliance for the Wild Rockies
11	Foster Land & Cattle
12	Joe Johnson

² George Wuerthner/AWR initially submitted comments May 14, 2014. On May 16, 2014 George Wuerthner/AWR submitted additional comments embedded within the May14 comments. Comments presented in the table below for Letter #5 are comments submitted by George Wuerthner/AWR May 16, 2014.

Letter No. 1 – Vince Collucci

Comment No.	Comment and Response
1-1	<p>Comment: <i>I was unclear if the plans or revisions could be revoked or restricted based on natural occurrences (drought, flooding, fire, etc) or abuse (excessive grazing).</i></p> <p>Response: Yes, changes to allotment management can be made administratively through the Term Grazing Permit and/or Annual Operating Instructions to respond to fire and drought, or resolve allotment administration issues such as excessive grazing (Term Grazing Permit, Part 2 – General Terms and Conditions, Section 8(b).</p>
1-2	<p>Comment: <i>What about weed control brought about by cattle? I thought that was weak in management approach. I still see knapweed from previous cattle grazing on the 10-mile/Grassy Mtn ridge and basins, upper Sullivan Ck/Seymour drainages.</i></p> <p>Response: Unfortunately, areas within the Seymour Allotment continue to be infested with noxious weeds (DEIS, Chapter 3, pg.218, Table 4). Numerous sources, including cattle grazing, have caused these infestations. Forest Service weed control crews will continue to look for, and treat, noxious weed infestations as prescribed by the 2002 Noxious Weed EIS.</p>
1-3	<p>Comment: <i>Predator control needs aggressive management, i.e., mainly wolves. The opportunity for optimal elk management exists now that the herd is showing signs of recovery (i.e., good calf to cow and bull to cow ratios).</i></p> <p>Response: Elk management and predator control is managed by MFWP³. Predator control for wolves, in relation to elk management, is not within the authority of the responsible official and not associated with the purpose of this proposal to update AMPs.</p>
1-4	<p>Comment: <i>This plan should also be looking at forest management (logging) for optimal foraging, overgrazing, and ALL wildlife and domestic grazing numbers should be optimized.</i></p> <p>Response: Please see the Purpose and Need For Action and the Proposed Action (DEIS, Chapter 1, pg. 11-12). Forest management activities were not identified as a proposed action in response to the purpose and need for action for this particular project. Grazing standards identified on page 24 of the DEIS were designed to ensure quality forage conditions for both domestic animals and wildlife.</p>

³ MFWP = Montana Fish, Wildlife & Parks

Comment No.	Comment and Response
1-5	<p>Comment: <i>Better control of these numbers can be brought about by minimizing access and limiting (severely) offroad travel by ATVs.</i></p> <p>Response: Motorized vehicle use in the project area is limited to routes displayed on Page 53 of the Forest Plan, and excluded from the Anaconda-Pintler Wilderness Area. Wheeled, motorized off road travel is not allowed in the project area.</p>

Letter No. 2 – Jean Public

Comment No.	Comment and Response
2-1	<p>Comment: <i>Its time to cut them off. Its time to tell them to move to private land where these robber baron cattle ranchers can pay the rates they should be paying. They are paying tiny amounts to destroy and use our national land.</i></p> <p>Response: Please refer to the background information for this project (DEIS, Chapter 1, pg. 1). Because grazing fees are calculated in accordance with Executive Order 12548, the BDNF does not influence +the cost of annual grazing fees. However, the BDNF does control how, when, and where grazing by domestic livestock occurs. Proposed grazing standards (DEIS, Chapter 1, pg. 24) are designed to protect and improve rangeland conditions, not to destroy them.</p>
2-2	<p>Comment: <i>They have no right to continue to get grazing leases. Their use by cattle is in fact causing global climate change its time to get the cattle off our national land. I want the land left as open space. It is time for the national public to have control of these lands that are currently being destroyed, where natural wildlife is killed by these cruel brutal robber baron cattle ranchers.</i></p> <p>Response: Please refer to the response to comment 2-1.</p> <p>Term grazing permits are not a legal “right”. Rather, they authorize the permit holder to graze livestock in a specific area under specific terms to meet multiple use objectives prescribed in the Forest Plan. Term grazing permits do authorize killing of natural wildlife. Wildlife populations are managed by MFWP.</p>

Letter No. 3 –Jackson Ranches, Inc.

Comment No.	Comment and Response
3-1	<p>Comment: <i>In reviewing the analysis for the Pioneer Allotment in Chapter 3, it seems clear that the Current Grazing Alternative is the best alternative for balancing the trade offs between economics and the conservation goals. The allotment is in good shape with no alarming trends in any of the standards that we can see.</i></p> <p>Response: Your support of the Current Grazing Alternative will be considered during the decision-making process.</p>
3-2	<p>Comment: <i>The Proposed Action adds some more management to the use of the allotment. While we feel this is unnecessary due to the stable condition of the allotment, we will be willing to work with FS personnel to make this work.</i></p> <p>Response: We appreciate your willingness to work with the Forest Service if the Proposed Action is selected for implementation.</p>
3-3	<p>Comment: <i>Alternative 4 seems to us to be not based on good science and should be rejected. The gains for the various resources are speculative and the economic costs to the permittee and the county's economy will be extreme. If there are resource concerns that develop, we would urge the FS to work with us in addressing specific problems under the Current Grazing Alternative or the Proposed Action rather than a total rest every fourth year.</i></p> <p>Response: Your opposition to Alternative 4 will be considered during the decision-making process. Specific to the Pioneer Allotment, the expected results of implementing Alternative 4 are disclosed in the DEIS, Chapter 3, pages 94, 106-107, 151, 158. 211, 353-354, 424-426, 545-546, 619-620, 635, 674, 688, 704, 714 and 723-724.</p> <p>We are unable to measure the economic effects of implementing Alternative 4 on the Pioneer Allotment. Project economic effects of implementing Alternative 4 for the entire project area is disclosed in DEIS, Chapter 3, pages 33-34.</p>
3-4	<p>Comment: <i>There [sic] No Grazing Alternative should be rejected. This alternative should be only used in areas that are in serious decline and degradation. This is obviously not the case in the Pioneer Allotment as your data show.</i></p> <p>Response: Your opposition to the No Grazing Alternative will be considered during the decision-making process.</p>

Letter No. 4 – NEC/AWR

Comment No.	Comment and Response
4-1	<p>Comment: <i>This project is too huge for most of the public to consider and provide reasonable comments. However, the information provided in the DEIS is considerable, which helps in public understanding of ongoing impacts and management of these 11 grazing allotments. We appreciate the amount of effort that went into developing such information.</i></p> <p>Response: We agree. The proposal covers a large area of land and the DEIS provides a large volume of information. Project size and analysis complexity are some of the reasons analysis of the proposed action and alternatives are disclosed in an EIS. Thank you for favorably recognizing the effort that went into disclosing the analysis. In response to this comment, we re-wrote alternative descriptions, in an attempt to assist readers in understanding differences between alternatives.</p>
4-2	<p>Comment: <i>Seymour Allotment - We do not support any of the proposed alternatives. The current lack of grazing on the Tenmile Pasture should be maintained, as this would provide an ungrazed reserve in this landscape for wildlife species intolerant of grazing. NEC and AWR brought up this concern in our scoping comments. Current science recommends this is needed for wildlife management. This option was not provided in any of the action alternatives.</i></p> <p>Response: As recognized by the reviewer, the Tenmile Pasture is currently unallocated to livestock grazing (DEIS, Chapter 1, pg. 33) and at least 2 pastures in the Seymour Allotment are rested each year. Your support of the current management alternative for the Seymour Allotment will be considered during the decision-making process. Please note – the Tenmile Pasture is not currently closed to grazing for the purpose of providing ungrazed reserves for wildlife intolerant of grazing. Effects of livestock grazing to wildlife and their habitat and cumulative effects of management activities were analyzed in detail (DEIS, Chapter 3, pg 749-852). The wildlife biologist for this project is not aware of wildlife species intolerant to grazing within the project area. The No Grazing alternative is intended to analyze the effects of cessation of livestock grazing on the National Forest Portions of the Project Area and therefore wildlife reserves are considered under this Alternative.</p>
4-3	<p>Comment: <i>Seymour Allotment - Alternative 4 includes an exclosure in the Sullivan pasture for western toads, although this is not included in Table 18. Exclosures are hard to maintain, and frequently do not serve their proposed function. Why can't the upper portion of this allotment simply be removed, which will enhance more western toad habitat, as well as provide an additional ungrazed reserve for both toads and other wildlife?</i></p> <p>Response: Both the proposed action and Alternative 4 include an exclosure in the Sullivan pasture to improve breeding</p>

Comment No.	Comment and Response
	<p>habitat for western toads (DEIS, Chapter 2, Table 16, pg. 33; DEIS, Chapter 3, pg. 73-74, 187). While suitable breeding habitat likely occurs across the project area, this is the only site with <i>known</i> western toad breeding habitat accessible to cattle in the project area (DEIS, Chapter 3, pg. 641). Local monitoring (on and around the B-DNF) of potential effects of livestock grazing on suitable amphibian and western toad breeding habitat has indicated that between 3.1 to 3.5% of the sites surveyed were heavily altered by livestock (DEIS, Chapter 3, pg. 641). The enclosure's purpose is specifically to protect toad breeding habitat according to Forest Plan Aquatic Resources Standard 5 (LRMP Chapter 3, pg. 18). Permanent removal of grazing from an area larger than the proposed enclosure would be inconsistent with the Forest Plan, because breeding of western toads are bound spatially(lakes, ponds, and slow moving streams) and temporally(May to July)(DEIS, Chapter 3, pg. 640).</p>
4-4	<p>Comment: <i>Seymour Allotment</i> – There has been 10,190 acres of past logging on this allotment. There was no information provided in the DEIS as to how this previous abundance of transitory range has been addressed in current management. How can grazing levels be maintained with this loss of range capacity for cows?</p> <p>Response: Loss of transitory range was recognized and addressed through implementation of 2002 cooperative grazing management with the MFWP (DEIS, Chapter 3, pg. 221-222 and App. A-3). Transitory range from timber harvest prior to 1994 is not suitable range for the Seymour Allotment.</p>
4-5	<p>Comment: <i>Fishtrap Allotment</i> – As noted above, there was no information provided in the DEIS regarding how the loss of transitory range on 1710 acres previously logged has affected past and current carrying capacity for cows on this allotment. Does this loss require a reduction in livestock use?</p> <p>Response: Transitory range from timber harvest prior to 1994 and areas with conifer cover greater than 60% are not suitable range for the Fishtrap Allotment (DEIS, Chapter 3, pg. 226). In response to the loss of transitory range and other resource concerns, the grazing season has been reduced by two weeks (DEIS, Chapter 2, pg. 36. Compare permitted SOU⁴ with current management SOU).</p>
4-6	<p>Comment: <i>Fishtrap Allotment</i> – We support Alternative 4, which will build in rest for this allotment, resting one out of 3 years, with a shortening of the grazing season by 2 weeks.</p> <p>Response: Your support of Alternative 4 will be considered during the decision-making process.</p>

⁴ SOU = Season of Use

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4-7	<p>Comment: <i>Mudd Creek Allotment</i> – As noted previously it is not clear how past logging on 2196 acres has affected the grazing capacity on this allotment. Do the current plans reflect this loss of transitory range?</p> <p>Response: Transitory range from timber harvest prior to 1994 and areas with conifer cover greater than 60% are not suitable range for the Mudd Creek Allotment (DEIS, Chapter 3, pg. 230-231 & App. A-3). Loss of transitory range, and subsequent impacts on grazing capacity, has not been a stocking or resource issue for the Mudd Creek Allotment since permitted and actual head months meet grazing standards prescribed for current management (DEIS, Chapter 2, pg. 38).</p>
4-8	<p>Comment: <i>Mudd Creek Allotment</i> - We support Alternative 4, which builds in rest every 1 of 3 years.</p> <p>Response: Your support of Alternative 4 will be considered during the decision-making process.</p>
4-9	<p>Comment: <i>Pintler Creek Allotment</i> - As noted previously, it is not clear how past logging on 1,149 acres has affected livestock carrying capacity. Do the current plans reflect ongoing loss of transitory range?</p> <p>Response: Transitory range from timber harvest prior to 1994 and areas with conifer cover greater than 60% are not suitable range for the Pintler Creek Allotment (DEIS, Chapter 3, pg. 234-235 & App. A-3). Loss of transitory range, and subsequent impacts on grazing capacity, has not been a stocking or resource issue for the Pintler Creek Allotment since permitted and actual head months meet grazing standards prescribed for current management (DEIS, Chapter 2, pg. 40).</p>
4-10	<p>Comment: <i>Pintler Creek Allotment</i> - We support Alternative 4 with modifications. This alternative will rest, or close out grazing on Pintlar Meadows. This will address our issue of providing ungrazing [sic] reserves for wildlife species intolerant of grazing. The proposed modification is to build in rest as well on other portions of the allotment into Alternative 4. It is not clear why this is not planned for these areas, since rest is obviously an important management practice.</p> <p>Response: Your support of Alternative 4 for the Pintler Creek Allotment will be considered during the decision-making process. Please note – resting Pintler Meadows from livestock grazing for at least 10 years is not proposed for the purpose of providing ungrazed reserves for wildlife intolerant of grazing (see response to comment 4-2). Rather, Pintler Meadows are proposed for closure for 10 years because a rest from livestock grazing is needed to assist with other restoration activities (DEIS, Chapter 2, pg. 29). We agree. Rest is an important range management practice, and should be considered where resource conditions warrant such a practice. Existing resource conditions suggest rest would be a viable and prudent course of action to consider (DEIS, Chapter 3, pg. 238). This management option will be reviewed and considered during the decision-making process.</p>

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4-11	<p>Comment: <i>Mussigbrod Allotment</i> – As noted previously, it is not clear how past logging on 1,384 acres, has affected past and planned grazing capacity. There is also an issue with the Mussigbrod [sic] Fire, and how this as well has affected grazing capacity.</p> <p>Response: Transitory range from timber harvest prior to 1994 and areas with conifer cover greater than 60% are not suitable range for the Mussigbrod Allotment. About 87% of the allotment was burned during the 2000 Mussigbrod wildfire but burn intensity was highly variable (DEIS, Chapter 3, pg. 241 & App. A-3). This loss of transitory range and the effects of the 2000 Mussigbrod Fire, on grazing capacity over the next 10 years are disclosed in the DEIS (Chapter 3, pg. 303). Alternatives have been developed to address this expected loss of capacity (DEIS, Chapter 2, pg. 43).</p>
4-12	<p>Comment: <i>Mussigbrod Allotment</i> – We support Alternative 4, which will close the Bender Pasture for 10 years, to aid recovery, and rest the remaining portions of this allotment one out of every 3 years. The closure of this past [sic] will address one of our issues, which is the provision of ungrazed reserves for wildlife that are intolerant of grazing.</p> <p>Response: Your support of Alternative 4 will be considered during the decision-making process. Please note - closure of the Bender Pasture is not proposed to provide ungrazed reserves for wildlife intolerant of grazing (see response to comment 4-2). Rather, Bender Pasture is proposed for closure for 10 years because a tributary of Bender Creek needs rested from livestock to assist with other restoration activities (DEIS, Chapter 2, pg. 29).</p>
4-13	<p>Comment: <i>Mussigbrod Allotment</i> - The addition of water developments is something we usually oppose, as this means more cows over more of the landscape, to the detriment of wildlife intolerant of grazing. However, in this case, additional water development will aid the closure of the Bender Pasture for 10 years.</p> <p>Response: Your support of Alternative 4 will be considered during the decision-making process.</p>
4-14	<p>Comment: <i>Ruby Creek Allotment</i> – As noted previously, there is no information in the DEIS regarding how the past logging of 4,533 acres, and the creation of transitory range, has been addressed in past and proposed grazing levels.</p> <p>Response: Transitory range from timber harvest prior to 1994 and areas with conifer cover greater than 60% are not suitable range for the Ruby Creek Allotment (DEIS, Chapter 3, pg. 244-245 & App. A-3). Effects of this loss of transitory range to grazing capacity are disclosed in the DEIS (Chapter 3, pg. 308-310). Alternatives have been developed to address this expected loss of capacity (DEIS, Chapter 2, pg. 45).</p>

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4-15	<p>Comment: <i>Ruby Creek Allotment</i> - We support Alternative 4, with modifications. We support the proposed action in Alternative 4 to rest the Butler Pasture one out of 3 years. However, rest needs to be built in for the other pastures on this allotment as well, including Lower Ruby and Cow Creek pastures. Why isn't rest proposed for these areas as well?</p> <p>Response: Your support of Alternative 4 will be considered during the decision-making process.</p> <p>We agree. Rest is an important range management practice, and should be considered where resource conditions warrant such a practice. Existing resource conditions suggest rest would be a viable and prudent course of action to consider (DEIS, Chapter 3, pg. 248). This management option will be reviewed and considered during the decision-making process.</p>
4-16	<p>Comment: <i>Dry Creek Allotment</i> – As noted previously, there is no information as to how past logging of 1,479 acres of forest has affected past and [sic] well as current livestock grazing capacity. How can grazing capacity be maintained in the face of these losses of suitable range?</p> <p>Response: Transitory range from timber harvest prior to 1994 and areas with conifer cover greater than 60% are not suitable range for the Dry Creek Allotment (DEIS, Chapter 3, pg. 249-250 & App. A-3). Effects of this loss of transitory range to grazing capacity are disclosed in the DEIS (Chapter 3, pg. 313-315). Action alternatives address this expected loss of capacity (DEIS, Chapter 2, pg.47).</p>
4-17	<p>Comment: <i>Dry Creek Allotment</i> - It is not clear why the western toad habitat that is current fenced will not remain fenced in proposed actions.</p> <p>Comment: The western toad habitat currently fenced in the Dry Creek Allotment is within the Twin Lakes Campground and protected under Current Management with no additions in exclosures for the Proposed Action or Alternative 4 (DEIS, Chapter 2, Table 23, pg. 48). The Forest Plan, Livestock Grazing Standard 2 states, "Domestic livestock grazing will not be allowed in developed recreation sites unless specifically permitted" (LRMP, Chapter 3, pg. 26). There is no plan to change the alignment of this campground fence, so this western toad habitat will remain protected from livestock grazing.</p>
4-18	<p>Comment: <i>Dry Creek Allotment</i> – We support either Alternative 3 or 4 that requires a rest of the allotment one out of 3 years.</p> <p>Response: Your support of the proposed action and Alternative 4 will be considered during the decision-making process.</p>

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4-19	<p>Comment: <i>Twin Lakes Allotment</i> – As noted previously, the impact of past logging on 1,710 acres of forest is not clear regarding past and current grazing capacity, or how proposed new grazing management addresses these declines in rangeland carry capacity for cows.</p> <p>Response: Transitory range from timber harvest prior to 1994 and areas with conifer cover greater than 60% are not suitable range for the Twin Lakes Allotment (DEIS, Chapter 3, pg. 254 & App. A-3). Effects of this loss of transitory range to grazing capacity are disclosed in the DEIS (Chapter 3, pg. 317-319). Action alternatives address this expected loss of capacity (DEIS, Chapter 2, pg.49).</p>
4-20	<p>Comment: <i>Twin Lakes Allotment</i> - We support Alternative 4 with modifications. We support the resting of the Big Lake Side of this allotment (actually 2 allotments) 2 out of every 6 years, with deferred entry every other year. However, these rest requirements are also needed for the Little Lake Pastures, along with the deferred entry every other years [sic]. It is not clear why these grazing areas are being treated differently or why since resting is obviously important to rangeland health, why this is not necessary on the Little Lake pastures.</p> <p>Response: Your support of Alternative 4 will be considered during the decision-making process. Please note, the Little Lake pasture is rested 2 out of 6 years in all grazing alternatives (DEIS, Chapter 2, pg. 50).</p>
4-21	<p>Comment: <i>Monument Allotment</i> – We support Alternative 4 with modifications. The pastures will only be rested one of every 4 years, while more rest is recommended for most of the other allotments. Why is rest recommended for only 25% of the time instead of 33% of the time for this allotment? According to information in the DEIS, there are several concerns on this allotment, so past grazing impacts appear to be undesirable.</p> <p>Response: Your support of Alternative 4 will be considered during the decision-making process.</p> <p>Under the current deferred grazing system, Rangeland Health Indicators are generally within the desired levels, except ground cover and, for a few species, plant composition (DEIS, Chapter 3, pg. 262). Incorporation of rest and proposed AUL's in Alternative 4 are expected to allow greater forage plant development and reproduction over the long term, result in improved plant vigor where needed and prevent the establishment and spread of invasive plants (DEIS, Chapter 3, pg. 323-324). Incorporation of rest and AUL's are key components of the expected improvement.</p>

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4-22	<p>Comment: <i>Pioneer Allotment</i> - We support Alternative 4 with modifications. The pastures will only be rested one of every 4 years, instead of one of every 3 years. Why is less rest required for this allotment, as we wondered about for the Monument Allotment as well? What differentiates the range health on this allotment to require less resting? The range information provided in the DEIS indicates there are a number of range concerns on this allotment.</p> <p>Response: Your support of Alternative 4 will be considered during the decision-making process.</p> <p>Rangeland Health Indicators for the Pioneer Allotment are disclosed in DEIS, Chapter 3, pg. 266-268 and generally within desired levels (with the occasional exception). Incorporation of rest in Alternative 4 is expected to improve plant vigor, result in greater forage plant development and reproduction, improve species composition, increase ground cover and prevent the establishment and spread of invasive plants (DEIS, Chapter 3, pg. 327-328) Incorporation of rest is the key component for the expected improvement.</p>
4-23	<p>Comment: <i>Saginaw Allotment</i> - As we noted previously, it is not clear how the past logging of 786 acres on this allotment has affected past, current and future grazing capacity for cows. Why won't changes in this transitory range affect rangeland carrying capacity?</p> <p>Response: Transitory range from timber harvest prior to 1994 and areas with conifer cover greater than 60% are not suitable range for the Saginaw Allotment (DEIS, Chapter 3, pg.268-269 & App. A-3). Effects of this loss of transitory range to grazing capacity are disclosed in the DEIS (Chapter 3, pg. 330-332). However, many harvest units in the Saginaw Allotment converted to pinegrass after conifers were removed (personal observation by Kevin Greenwood). Because pinegrass provides poor to fair forage for livestock (DEIS, Chapter 3, pg. 216) little grazing capacity was gained from timber harvest, or lost with conversion back to conifers. Action alternatives address expected loss of capacity (DEIS, Chapter 2, pg.56).</p>
4-24	<p>Comment: <i>Saginaw Allotment</i> - We support Alternative 4 with modifications. This is the only alternative that provides any protection to the Westslope Cutthroat [sic] Trout (WCT) occupied streams on this allotment. Alternative 4 will "avoid" the sensitive period during the WCT development period from July 1 into early August. We think this pasture (Pasture 4) should be excluded from grazing. This will ensure restoration of willow streamside habitat, a reduction in bank trampling, and an improvement in stream areas that are functioning below recommended levels.</p> <p>Response: Closure of Pasture 4 to livestock grazing is considered in the No Action Alternative. While some willow dominated plant communities in the Saginaw Allotment are disclosed as not meeting rangeland health indicators for shrub cover, it is not thought to be due to effects from livestock grazing (DEIS, Chapter 3, pg. 273-4). Further, riparian</p>

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	grassland community types exist on the Saginaw Allotment with no evidence of a historic willow component, nor would they support the potential for a shrub component (DEIS, Chapter 3, pg. 273). Refer to the response to comment 4-25 for describing features in Alternative 4 designed to protect WCT.
4-25	<p>Comment: <i>Saginaw Allotment</i> – Although Alternative 4 will protect trampling of trout redds, it fails to address other concerns noted by the Montana Fish, Wildlife and Parks (MFWP) as provided in DEIS response to comments in Table 2 at page 34. They noted that upper Governor Creek and tributaries, including Indian Creek and unnamed tributaries harbor some of the last remaining WCT populations in the upper Big Hole; trampling of trout redds may be an issue in these streams if livestock use overlaps with the incubation period of trout eggs; these streams are also particularly sensitive to the potential impacts from grazing because of their low gradient meadow-like nature, as water is scarce later in the season and the lush grass of the riparian areas is attractive to livestock; <u>further, there are few willows or other woody vegetation to provide bank stability or cover for fish</u>; grazing plans in this area should take these considerations into account to reduce potential impacts to WCT; riparian exclosure fences, alteration of the timing of use, or other measures may be necessary to reduce potential impacts to these streams and WCT.</p> <p>Response: As you point out, Alternative 4 considers and analyzes an avoidance period to protect WCT during spawning and incubation of egg masses and the No Action Alternative considers and analyzes no livestock grazing of the Saginaw Allotment. Temporal separation of spawning WCT and livestock is considered the best tool for avoiding potential direct impacts to WCT redds from livestock trampling. Riparian vegetation community condition and potential for the Saginaw Allotment are disclosed in the Range and Invasive Plants Section of the DEIS (Chapter 3, pg. 269-274). The Forest Plan provides special considerations for livestock grazing in WCT habitat under Livestock Grazing Standards 1 (LRMP, Chapter 3, pg. 25-26).</p>
4-26	<p>Comment: <i>Saginaw Allotment</i> – The closure of pasture 4 on this allotment to any livestock grazing would also address NEC and AWR concerns about the provision of ungrazed reserves for wildlife intolerant of grazing. This will have multiple benefits for both wildlife and fish species that are generally intolerant of grazing.</p> <p>Response: Closure of Pasture 4 to livestock grazing is considered in the No Action Alternative. Closure of Pasture 4 is not proposed to provide ungrazed reserves for wildlife intolerant of grazing (see response to comment 4-2).</p>
4-27a	<p>Comment: <i>The analysis of management costs on these allotments provides important information to the public. The high cost of grazing, and the very low returns to the public, is well known but still disturbing. It is also clear that the ability of the agency to monitor grazing impacts is extremely limited in comparison to what would be required to provide a reasonable level of management. The range analysis information indicates that range surveys are rarely conducted, in</i></p>

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	<p><i>some cases only every 25 or more years. End-of-year compliance checks are also spotty at times, due to limited personnel. Also, range surveys rarely include an assessment of willow condition and utilization by cattle. So while we are recommending that much more extensive monitoring of livestock impacts on woody browse be done in our DEIS comments, so that historic willow habitats can be restored, this recommendation appears to be futile.</i></p> <p>Response: Forest Plan Livestock Grazing Goals include “use of forage by domestic livestock will maintain or enhance the desired structure and diversity of plant communities on grasslands, shrub lands, and forests” (pg. 25). An AUL in the DEIS proposed action and Alternative 4 includes moving cattle when a shift in preference to woody browse occurs (DEIS, Chap 2, pg. 24, 27). This proposed AUL assists the Forest achieve the Forest Plan Goals by mitigating potential livestock browse effects on woody species. As stated in Chapter 2 of the DEIS, when any one of the Allowable Use Level metrics is reached, livestock would be moved (pg. 28). In many cases, the streambank alteration standard will be achieved before stubble height or woody browse standards are met, therefore all the AULs are designed to provide for overall riparian improvement including historic willow habitats.</p>
4-27b	<p>Comment: <i>However, a cost to wildlife dependent upon healthy dense woody riparian vegetation due to past and ongoing livestock grazing, needs to be addressed.</i></p> <p>Response: Impacts to wildlife associated with woody riparian vegetation from past and ongoing livestock grazing was addressed and can be found in the migratory birds section (DEIS, Chapter 3, pg.850; Appendix B8).</p>
4-28	<p>Comment: <i>Table II defines the forage utilization levels (AULs) along riparian areas based on whether or not they are functions properly or functions at risk. For the 3 categories of functioning properly, function-at-risk, and non-functioning, there is only a range of forage use of less than or equal to 45%, 40% and 35%. These seem unrealistic. How can a permittee, let alone [sic] a range person, actually measure the difference between these utilization level [sic]? These levels would appear to be incapable of ensuring that streams functioning-at-risk will improve. The same problem exists for stubble height. The difference between a 4 and 3 inch stubble height, and a 4 to a 6 inch stubble height, seems unlikely to be meaningful for monitoring. Finally, we have the same concern about the 3 levels of stream bank trampling allowed for various steam [sic] conditions. How can the difference between a 30% and a 25% streambank trampling, or between a 25% and a 20% streambank trampling actually be measured? These criteria seem rather meaningless to actually promote recovery of degraded streams.</i></p> <p>Response: AULs are a tool to provide the rangeland management specialist and permittee with measurable triggers for day to day management of livestock on public land. All of these are well established quantitative approaches using measured metrics on streams in the project area to determine the best time to move livestock to maintain or improve</p>

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	<p>riparian conditions. These metrics are well correlated to maintenance or improvement of riparian condition (long term trend) and supported by best available knowledge/science on and off Forest (Bohn, 2004). Additional off Forest best available science to support the site specific AULs based on current stream condition can be produced, if needed, during the objection period.</p>
4-29	<p>Comment: <i>There is not information in the DEIS about areas on the 11 grazing allotments that are big game winter range. Table 12 in the DEIS notes that these areas will have less forage utilization than other areas (no more than 35% use on 85% of the winter range, with 55% us on the remaining 15%. Why isn't this management direction addressed as per the 11 allotments?</i></p> <p>Response: The utilization standard for big game winter range in Table 12 is an error. No big game winter range is mapped in the 11 allotments considered under this proposal. This reference will be removed from the FEIS.</p>
4-30	<p>Comment: <i>The DEIS is completely silent on the management of vegetation on thes [sic] 11 allotments to promote livestock grazing via prescribed burning. A table in the DEIS in Chapter III at page 3 notes, for example, that no burning of sagebrush is planned, and no conifer encroachment treatments are planned. However, past, present and reasonably foreseeable future actions included prescribed fire on these allotments. Prescribed burning is clearly an issue with NEC and AWR, and the agency needs to provide the information regarding planned prescribed burning on these allotments. Since this burning is related to livestock grazing and maintenance and/or increases in grazing capacity, this is part of the cumulative effects of livestock grazing. There are no wildlife benefits from prescribed burning, so any burning done will be a livestock management activity. Please provide the planned burning projects for these 11 allotments, and evaluate impacts to wildlife instead of doing this later in a separate NEPA analysis.</i></p> <p>Response: Reasonably foreseeable use of prescribed fire disclosed in the DEIS (Chapter 3, pg. 3) is the burning of slash piles resulting from current, or proposed, timber management and hazard tree removal. No prescribed burning is planned solely for the improvement of forage for livestock, nor has this activity occurred in the recent past in the project area. Prescribed burning was not identified in the purpose and need or alternatives for this project, so its potential effects to wildlife should only be identified in cumulative effects.</p>
4-31	<p>Comment: <i>There is no information in the DEIS about how much sagebrush has been controlled (acres and years) on the 11 allotments. This information needs to be provided, and an assessment of past impacts on sagebrush-associated species included as an impact of grazing management⁶. This would include an assessment of grazing impacts on sage grouse, on all sagebrush areas that are within 11 miles of a sage grouse lek, as directed for management by the Forest Plan, and an assessment of grazing impacts on the pygmy rabbit, based on sagebrush control activities that have occurred on all</i></p>

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	<p><i>areas located within pygmy rabbit habitat as mapped for the DEIS. Also, we would like to know how much of the total sagebrush areas on allotments is currently suitable for associated species of concern, such as the Brewer's sparrow, sage sparrow, and sage thrasher due to past control efforts.</i></p> <p>Response: The effect of past sagebrush treatment in the analysis area is presented as part of the existing condition of sagebrush community types within the project area (DEIS, Chapter 3, pg. 2, 215-217, 222-224, 226-229, 231-233, 235-245, 249-267, 269-270, 272-273) and existing conditions for pygmy rabbit habitat (DEIS, Chapter 3, pg. 745). The potential impacts of past sagebrush treatment to associated wildlife species is not quantifiable alone however the overall potential effects of livestock grazing to sagebrush communities and sagebrush-associated species within the project area are disclosed by alternative and in cumulative effects analysis (DEIS, Chapter 3, pg. 745, 804-829, 833-849, Appendix B8).</p> <p>According to the Montana Bird Conservation Plan (PIF 2000), implementing recommendations for sage-grouse (DEIS Chapter 3, pg. 723, 740-742, 804-829) should encompass all the needs of brewer's sparrows (DEIS, Chapter 3, pg. 850, Appendix B8).</p> <p>Habitat (shrub steppe) is present for sage-sparrow as presented in the sage-grouse existing condition section (DEIS, Chapter 3, pg. 740-742); however, in Montana this species is not considered a species of conservation concern and is a MTFWP Conservation Tier III species meaning although important to Montana's wildlife diversity, this species, communities, and focus areas are either: 1) abundant and widespread or are 2) believed to have adequate conservation already in place (Montana Field Guide, MTNHP 2013) therefore this species was not analyzed in detail (DEIS, Chapter 3, pg. 850, Appendix B8). Additionally, this project does not propose sagebrush control.</p> <p>Habitat for sage thrasher is present, however marginal as it is on the upper elevation limit where this species prefers and they have not been documented in the allotments and are not suspected. Analysis of breeding bird data indicates that Sage Thrasher population trends are stable in Montana and the western region (MTPIF 2000) in light of all past activities, including past sagebrush control (DEIS, Chapter 5, Appendix B8). This project does not propose sagebrush control and because the species is considered stable in Montana, effects to this species were not analyzed in detail (DEIS, Chapter 5, Appendix B8).</p>
4-32	<p>Comment: <i>As was noted in the EPA comments on cumulative effects, activities on adjacent lands, including BLM, State, and private, should also be addressed. We would like to know roughly how much sagebrush control activity has also occurred in other portions of the analysis area.</i></p>

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	<p>Response: Past sagebrush treatment in the analysis area was presented in the existing condition section of the DEIS; effects from any past treatment may be reflected in current sagebrush cover values (DEIS, Chapter 3, pg. 2, 215-217, 222-224, 226-229, 231-233, 235-245, 249-267, 269-270, 272-273) and existing conditions for pygmy rabbit habitat (DEIS, Chapter 3, pg. 745). It is unknown to the Forest Service the full extent of sagebrush treatment on lands not managed within the National Forest System; speculating on the effects of unknown treatments is not within the scope of this analysis.</p>
4-33a	<p>Comment: <i>There are no clearly defined criteria in the Forest Plan regarding the health of sagebrush communities as per the current best science. Sagebrush is noted by the Forest Service research branch as an “imperiled species.” Sagebrush habitats are also mostly grazed by livestock. Maintaining healthy sagebrush communities cannot be done without standards for measuring health. This lack of criteria for sagebrush health needs to be corrected in the Forest Plan.</i></p> <p>Response: The 2009 Forest Plan FEIS (pg. 450) identifies percentage of grasslands/scrublands in early, mid, or late seral condition as an effects indicator for vegetation. Comparisons of existing condition and the historic range of variability is disclosed in the Forest Plan FEIS (pg. 463-465) and generally attributed to conifer encroachment.</p> <p>The Reviewing Officer for the Chief, in her 10/30/09 decision (Attachment 2, pg. 44-45) on appeals of the Forest Plan FEIS and ROD found that vegetation treatments prescribed in the Forest Plan, where conifers are encroaching upon sagebrush habitats, are designed to improve habitat conditions and that the BDNF incorporated current science in the Forest Plan FEIS analysis.</p> <p>Disputing Forest Plan FEIS, Goals, Objectives, or Standards, is not within the scope of this project. Indicators of Rangeland Health for sagebrush dominated communities and desired values for these indicators are disclosed and analyzed in DEIS Sections for Range and Invasive Plants (DEIS, Chapter 3, pg. 215-355).</p>
4-33b	<p>Comment: <i>The DEIS makes a reference at page 267 that sagebrush lacking age class diversity is in poor health. This theme is further noted at page 276 where it is claimed that sagebrush ecosystems naturally have a variety of age classes and structure, but when sagebrush cover is outside of desired conditions there may be a risk of the overall ecological health and diversity of these plant communities. We are concerned that the health of sagebrush communities is based on cattle forage, not the ability of sagebrush to support wildlife. This issue needs to be corrected in the Forest Plan, and applied to grazing allotments since the majority of sagebrush habitats are grazed by cattle.</i></p> <p>Response: The first paragraph on DEIS page 267, in its entirety, discloses, that sagebrush canopy cover (for the Pioneer Allotment) is within the expected range of variability for shrub cover but lacks age-class diversity because of existing late</p>

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	<p>seral or climax vegetation condition. The paragraph does not conclude sagebrush communities in the Pioneer Allotment are in poor health.</p> <p>Pages 275-277 of the DEIS describe <u>four</u> indicators of rangeland health and functionality used in this analysis; <u>one</u> of which is shrub cover. Please refer to the entire paragraph on DEIS page 276 explaining why percent shrub cover is the primary basis used in this project specific analysis for this resource indicator. Using percent shrub cover as one of four indicators of rangeland health and functionality does not infer the health of sagebrush communities is based on cattle forage, rather than the ability to support wildlife. Furthermore, Indicators of Rangeland Health were developed to assess ecological health and diversity of the full range of plant communities utilized as rangelands, including but not limited to sagebrush dominated plant community types.</p>
4-34	<p>Comment: <i>The claim in the DEIS that grazing benefits the pygmy rabbit is misleading. The reference that was cited contains many other comments that grazing may be detrimental to this rabbit by reducing forage.</i></p> <p>Response: Habitat loss due to grazing (and other activities) is identified in the DEIS as probably one of the most significant factors to pygmy rabbit population decline (DEIS, Chapter 3, pg.745). The existing condition for pygmy rabbit and its habitat disclosed that reduced availability of forbs and grasses, sagebrush removal, or reductions in sagebrush cover are possible effects of livestock grazing activities (DEIS, Chapter 3, pg. 745). Availability of forbs and grasses was a measure of impact for this species and the potential for “improvement” was based on a comparison of each alternative to current management (DEIS, Chapter 3, pg. 750, 835-849). No information on the potential benefits of grazing to pygmy rabbits could be found in the DEIS.</p>
4-35	<p>Comment: <i>There are at least 51 acres of aspen habitats on these allotments. There is no mention of aspen management, however, in the DEIS. The Forest Plan FEIS notes that this species is sensitive to browsing (FEIS at 311); aspen are declining in health due to a decrease in young aspen shoots (FEIS at 457); aspen often is adversely affect [sic] if over-browsed (FEIS at 477); aspen may not remain viable with excessive grazing (FEIS 469); factors related to aspen decline include browsing and increased infection by pathogens, as well as climate change. The Forest Plan does not address aspen management on grazing allotments, require any monitoring of aspen, or require any browsing limits by livestock. There are also no criteria for aspen stand health based on regeneration. Aspen appears to be threatened by livestock grazing, and this threat is being ignored in the DEIS for these 11 allotments. Casual observations by both NEC and AWR on aspen, including on the BDNF, indicate that browsing is having a severe impact on regenerations across Region 1 of the Forest Service. There need [sic] to be standards in the Forest Plan to protect aspen habitats on allotments, including a limitation of utilization by cattle. Monitoring is required to determine when excessive utilization is occurring (in</i></p>

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	<p><i>summer by livestock, in winter by wildlife). The current failure of the BDNF to manage aspen threatens the long-term viability of this important tree.</i></p> <p>Response: Disputing the Forest Plan FEIS or goals, objectives or standards is outside the scope of this project, and site specific analysis of plant community diversity and effects of livestock grazing to browse species, including aspen, as well as potential cumulative effects in regards to aspen have been disclosed in this DEIS (Chapter 2, pg. 24, 27; Chapter 3, no less than 43 references to “aspen”). No reasonably foreseeable future vegetation management projects are proposed that specifically treat aspen in the project area, nor was aspen treatment identified in any alternatives for this project.</p> <p>Forest Plan vegetation objectives include increasing the aspen component in lodgepole pine and other vegetation types (Forest Plan, pg. 44). This objective applies to aspen stands located in allotments. Forest Plan Monitoring Items include monitoring if management activities are restoring aspen at the rate projected in the Forest Plan (pg. 276).</p> <p>Forest Plan (Chapter 3, pg. 25) livestock goals include “use of forage by domestic livestock will maintain or enhance the desired structure and diversity of plant communities on grasslands, shrub lands, and forests.” An AUL in the DEIS proposed action and Alternative 4 includes moving cattle when a shift in preference to woody browse occurs (DEIS, Chapter 2, pg. 24 & 27). This proposed AUL assists the Forest achieve the Forest Plan Livestock Grazing Goal by mitigating potential livestock browse effects on aspen and other woody species.</p> <p>Long-term viability of aspen was not identified as a contention during administrative review of the 2009 Forest Plan. However, the Reviewing Officer for the Chief, in her 10/30/09 decision (Attachment 2, pg. 25) on appeals of the Forest Plan FEIS and ROD found that the FEIS analysis of impact of livestock grazing on aspen was commensurate with the programmatic level of the decision.</p> <p>The Northern Rockies Lynx Management Direction(NRLMD) is included by reference in the analysis for the Forest Plan (Chapter 3, Wildlife Habitat, Standard 7, pg. 49) and this DEIS (Chapter 3, pg. 731). Within the NRLMD, is a guideline (GRAZ G2) that states, “In aspen stands, livestock grazing should be managed to contribute to the long-term health and sustainability of aspen.”</p>
4-36	<p>Comment: <i>The DEIS contains extensive comments regarding the condition of willow in riparian areas. These comments are mostly based on ocular assessments, as there are no standards in the BDNF Forest Plan for measuring willow habitat health, or in turn, standards for preventing excessive browsing of willow by cattle. It is impossible for the agency to demonstrate that willow habitats are improving, let alone provide adequate habitat for wildlife. The Forest Plan needs to provide a standard for the health of willow communities where potential habitat exists, and also needs to provide a limit</i></p>

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	<p><i>to browsing of willow by livestock.</i></p> <p>Response: Disputing the Forest Plan FEIS or goals, objectives or standards is outside the scope of this project, and site specific analysis of plant community diversity and effects of livestock grazing to browse species, including willows, as well as potential cumulative effects in regards to willow community abundance and health have been disclosed in this DEIS (Chapter 2, pg. 24, 27; Chapter 3, over 200 references to “willows”). Existing abundance of willow communities at the project scale and by allotment are disclosed in Existing Condition for Range and Invasive Plants, as well as the average percent species composition and range of species composition for multiple willow dominated community types (DEIS, Chapter 3, pg. 215-274). Furthermore, an analysis of the deviation from range of variability for willow communities is presented in the Analysis for Range and Invasive Plants, Shrub Cover Indicator (DEIS, Chapter 3, pg. 275- 355). Actions proposed for Bender Creek (Mussigbrod Allotment) and Pintler Meadow (Pintler Creek Allotment) in Alternative 4 both include willow restoration activities (DEIS, Chapter 2, pg. 29).</p> <p>Forest Plan (Chapter 3, pg. 25) livestock goals include “use of forage by domestic livestock will maintain or enhance the desired structure and diversity of plant communities on grasslands, shrub lands, and forests.” An AUL in the DEIS proposed action and Alternative 4 includes moving cattle when a shift in preference to woody browse occurs (DEIS, Chapter 2, pg. 24 & 27). This proposed AUL assists the Forest achieve the Forest Plan Livestock Grazing Goal by mitigating potential livestock browse effects on willows and other woody species.</p> <p>The Northern Rockies Lynx Management Direction(NRLMD) is included by reference in the analysis for the Forest Plan (Chapter 3, Wildlife Habitat, Standard 7, pg. 49) and this DEIS (Chapter 3, pg. 731). Within the NRLMD, is a guideline (GRAZ G3) that states, “In riparian areas and willow cars, manage livestock grazing to contribute to maintaining or achieving a preponderance of mid- or late-seral stages, similar to conditions that would have occurred under historic disturbance regimes.”</p> <p>The Reviewing Officer for the Chief, in her 10/30/09 decision (Attachment 2, pg. 74) on appeals of the Forest Plan FEIS and ROD found that the FEIS analysis of impact of livestock grazing on the availability of willow habitat was adequate and found numerous Forest Plan components addressing willow habitat by providing for riparian and aquatic health. Further, the Reviewing Officer concluded “Watershed conservation practices and updated grazing standards designed to protect water quality and riparian areas, where needed, will be included in allotment-management plans as they are revised and updated.” The North West Big Hole AMPs DEIS analyzes alternatives to provide updated grazing standards, in compliance with the Forest Plan.</p>

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4-37	<p>Comment: <i>The DEIS contains extensive comments regarding the condition of willow in riparian areas. These comments are mostly based on ocular assessments, as there are no standards in the BDNF Forest Plan for measuring willow habitat health, or in turn, standards for preventing excessive browsing of willow by cattle. There is also no management indicator species for this key wildlife habitat. It is impossible for the agency to demonstrate that willow habitats are improving, let alone provide adequate habitat for wildlife. The Forest Plan needs to provide a standard for the health of willow communities where potential habitat exists, and also needs to provide a limit to browsing of willow by livestock.</i></p> <p>Response: See response to comment 4-36.</p> <p>A claim that MIS need to include small mammals and songbirds sensitive to grazing, availability of willow habitat and cowbird parasitism was addressed during administrative review of the 2009 Forest Plan. The Reviewing Officer for the Chief, in her 10/30/09 decision (Attachment 2, pg. 74) on appeals of the Forest Plan FEIS and ROD found that the 1982 NFMA regulations do not require the selection of MIS for all disturbance activities, such as livestock grazing.</p>
4-38	<p>Comment...<i>the Forest Plan does not address management of aspen and willow habitats, both key to wildlife and biodiversity. The Forest Plan also does not address cowbird parasitism on songbirds in riparian areas, or the provision of ungrazed reserves for wildlife intolerant to grazing. There are several opportunities in the 11 allotments addressed in the DEIS to begin management actions that would address all 4 of these public issues. Areas that have high riparian values (lots of willows and/or aspen), areas that also have significant aspen stands outside of riparian areas, could be protected from grazing (permanently) in large enough areas that would not only provide some ungrazed reserves to wildlife, but would eliminate cattle use in riparian areas, which is the biggest contributing factor to parasitism of songbirds by cowbirds. We would like to see an alternative added that will address these 4 concerns.</i></p> <p>Response: Refer to response to Comments 4-35, 4-36 & 4-37.</p> <p>The Merriam-Webster dictionary defines intolerant as “unable or unwilling to endure”. Using this definition, we are unaware of any wildlife species present on the BDNF that is unable to endure livestock grazing, especially at grazing use levels necessary to meet Forest Plan goals, objectives and standards. Therefore, ungrazed reserves, specifically set aside for wildlife intolerant to grazing, are not warranted.</p> <p>Please refer to the DEIS for analysis of projected effects to songbirds and riparian areas for the no grazing and action alternatives. Furthermore, the majority of the acreage in each allotment receives very little livestock grazing due to suitability. Please refer to the DEIS tables and descriptions for each allotment in the range vegetation section. For example, of the 5,000+ acres of NFS lands in the Mussigbrod Allotment, 624 acres are suitable. As a result, nearly 88%</p>

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	<p>of the allotment is rarely, if ever, grazed by domestic livestock.</p> <p>The threat as identified by the Bird Conservation Plan refers to grazing at heavy levels, or overgrazing, NOT implementing grazing systems and AULs proposed in DEIS.</p>
4-39	<p>Comment: <i>It is apparent from the excellent maps provided in the DEIS that WCT are present on only a very few streams on the 11 allotments and within the analysis area. Yet the DEIS did not address the historical versus the current distribution of WCTs in this landscape. Although competition with brook trout is clearly one problem for WCTs, the impact of livestock is also a contributing factor that likely reduces their competitive status against other fish species, as well as outright reduces existing populations, such as due to trampling of redds, and increased water temperatures due to overly-wide stream channels and a lack of cover of willows. The historic status of WCT needs to be included in the DEIS, since grazing management, or a lack thereof, has likely been a big contributor to the existing paucity of WCT on this landscape.</i></p> <p>Response: We have added language regarding the historic and current status of westslope cutthroat trout into FEIS on page 628.</p>
4-40	<p>Comment: <i>We noted previously that the logging of vast areas of the 11 grazing allotments will have produced an abundance of additional livestock forage for quite a few years after clearcutting (some 25,000 acres). In addition, livestock forage will have been increased due to the unidentified acreage of sagebrush burning/control practices on these 11 allotments. What was ignored in the DEIS is how these past practices to increase forage for livestock affect existing and future livestock forage availability on these allotments. It is not clear how current grazing capacity is going to be maintained due to reforestation of clearcut areas, and reestablishment of older, more dense sagebrush habitats in formerly burned areas. It would seem that there has been a decline in the carrying capacity of these grazing allotments for cattle over the recent years, but there is no evidence that this was addressed in the proposed management updates. This raises a concern that in spite of improved management on these allotments, the reduction of grazing capacity due to reforestation and recovery of sagebrush burned areas will negate proposed improvements, with the proposed grazing pressure still being too high to promote upland health.</i></p> <p>Response: We agree that sagebrush treatments of the past have recovered to a condition where the original effects of the treatments are negligible or no longer detectable.</p> <p>On a majority of the allotments there has been an appreciable to significant reduction in authorized livestock use when permitted use is compared to current management head month numbers (DEIS, Chapter 3, pg. 32-56). These reductions</p>

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	<p>have occurred over the years to respond to a variety of resource concerns, including a loss in grazing capacity due to reforestation of harvest units (e.g., Seymour and Dry Creek allotments). Actions proposed under the Proposed Action and Alternative 4 were designed to improve rangeland health conditions, where needed, and to respond to grazing capacity concerns where noted.</p>
4-41	<p>Comment...<i>it seems that these grazing allotments are doomed to degraded conditions due to the lack of an adequate budget to get the monitoring done. Some of the allotments were not monitored for over 20 years until recently, and these do not include any specific measurements of riparian areas and aspen. It is evident that the agency is doing the best it can for monitoring, but this has its limitations. We would suggest that this problem needs to be addressed in this management program, since it will be in place for 10 years. There needs to be a proactive strategy to seek ways to reduce the acreage of these public lands that are grazed, so that a reasonable level of monitoring can actually be accomplished. Some of the actions in Alternative 4 address these concerns by reducing areas to be grazed (e.g., Pintlar Meadows), but more could be done. For example, why start grazing the Tenmile pasture, since it has not been used for quite a few years?</i></p> <p>Response: We agree that an inadequate budget (and lack of personnel) can impact the frequency of both short and long-term monitoring; however, objectives and priorities for monitoring also determine the frequency. For example, sagebrush dominated plant communities establish new individuals in an episodic manner and therefor measurable change in these communities occur on a magnitude of 5-200 years, so 20 years between long term trend monitoring is sufficient to detect changes.</p> <p>In regards to reducing lands available to livestock grazing, please see background information under Chapter 1 – Purpose and Need For Action (DEIS, p. 1), and response to comment 4-2 pertaining to the Tenmile pasture on the Seymour allotment.</p>

Letter No.5 – George Wuerthner/AWR

Comment No.	Comment and Response
5-1	<p>Comment: <i>We support the No Action alternative and the termination of all livestock grazing on the eleven allotments.</i></p> <p>Response: Your support of the No Action alternative will be considered during the decision-making process.</p>
5-2	<p>Comments...<i>the FS describes the No Action alternative by saying “Under this alternative domestic livestock grazing permits on National Forest Service (NFS) lands within the eleven allotments would be discontinued with a minimum of two years notice (36 CFR 222.4(a)(1) to permittees. No new term grazing permits for domestic livestock grazing would be issued and no new infrastructure would be implemented.” Yet a few pages later the document suggests that this would not address concerns about Westslope cutthroat trout, western toad and riparian steambank stability. On page vii the DEIS says that no The No Action and Current Management Alternatives will:</i></p> <ul style="list-style-type: none"> • <i>Not meet applicable Forest Plan Standards for Range Management.</i> • <i>Not move the forest towards the Forest Wide goals for Range Management.</i> • <i>Not meet the Purpose and Need of updating the grazing management and infrastructure on the eleven domestic livestock grazing allotments to comply with the applicable Forest Plan direction.</i> • <i>Not address the three concerns (livestock in riparian areas, Westslope Cutthroat Trout and Western Toad populations and habitat, and stream bank stability) identified during scoping.</i> <p><i>This begs credibility as there is a host of scientific literature that demonstrates the positive benefits of livestock removal from streams banks and riparian zones. And reduction of damage to riparian areas will have a positive influence on western toad and cutthroat trout.</i></p> <p>Response: Thank you for pointing out the confusing statement in the DEIS at page vii (specifically, the last bullet statement in the above comment). In this summary section of the DEIS, the bullet statement were intended to briefly explain major conclusions and the Current Management alternative was “lumped” with conclusions from the No Grazing alternative. The Current Grazing alternative does not address the three concerns (livestock in riparian areas, Westslope Cutthroat Trout and Western Toad populations and habitat and stream bank stability) as positively as the Proposed Action and Alternative 4. We will make this correction in the summary section of the FEIS.</p>
5-3	<p>Comment: <i>The Forest Plan says it will provide for the economic subsidies to local livestock interests—at public expense—but ignores the economic and ecological interests of the public. So to eliminate livestock production, though it would provide greater economic and ecological benefits are not permitted. Thus the No Action alternative, though required by law, is a moot question because the Forest Plan invalidates the law by requiring grazing.</i></p>

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	<p>Response: Range (livestock grazing) is one of the multiple uses outlined in the Multiple-Use Sustained-Yield Act (MUSY) of 1960 (16 U.S.C. 528–531), contributes to social and economic sustainability of local communities and must be consistent with goals for maintaining the ecological sustainability of these lands. The DEIS (Chap. 1, pg. 1 & 11) briefly describes the regulatory framework for managing forage consumption by livestock with applicable ecological functions.</p> <p>The first statement in this comment does not occur in the Forest Plan. The Forest Plan Goals established 95 goals for 17 specific resources, including one goal stating: “Forage Use: Use of forage by domestic livestock will maintain or enhance the desired structure and diversity of plant communities on grasslands, shrub lands, and forests. Use will be managed to maintain or restore riparian function as defined in the allotment management plan” (DEIS, Chap. 3, pg. 6 and Forest Plan, pg. 25). Another Goal of the Forest Plan states: “Contribute to the social and economic well-being of local communities by promoting sustainable use of renewable natural resources. Provide timber for commercial harvest, forage for livestock grazing, exploration and development opportunities for mineral resources, and recreation settings consistent with other resource goals” (DEIS Chapter 3, pg. 6 and Forest Plan, pg. 21).</p> <p>The DEIS discloses regulatory framework which requires consideration and analysis of both social values and economic values for this and other projects proposed on National Forest System Lands (Chapter 3, pg. 5-40).</p> <p>40 CFR 1502.14(d) requires the inclusion of no action in an EIS. In the DEIS (Chap. 1, pg. 19-20), not permitting livestock grazing is identified as no action. The Forest Plan does not invalidate the No Action Alternative by ignoring economic and ecological interests and benefits.</p>
5-4	<p>Comment...<i>in the document (Table 13) the FS admits repeatedly that removal of livestock would “Under this alternative, forage plants would not be grazed by livestock which would result in improved vigor, seed production and increase trend in desirable species composition in the long term for upland and riparian areas.” In other words, livestock removal is by far the best way to achieve desirable vegetation and wildlife conditions, yet the No Action alternative is basically made moot by the agency’s contradictory plan to always graze the allotments.</i></p> <p>Response: Please refer to page 1 of the Forest Plan outlining the purpose of the revised plan and multiple-use goals and objectives including the production of goods and services such as livestock grazing (Forest Plan, page 7). The No Grazing Alternative is not “moot”. Rather, if selected, the North and West Big Hole project area would no longer contribute towards the production of livestock grazing opportunities on the BDNF.</p>

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5-5	<p>Comment: <i>First the requirement of the Forest Plan revision that “People and communities benefit from programs and infrastructure that support livestock grazing.....” makes the No Action alternative more or less an exercise in some legal shell game. The law requires a realistic No Grazing alternative, but the above statement means that no grazing is not an option. How can that be legal?</i></p> <p>Response: Only a partial quote of the statement found on page 11 of the Forest Plan is provided in the above comment. The full statement (one of eleven bullet statements describing the desired condition of the entire Forest) is “People and communities benefit from programs and infrastructure that support livestock grazing and an array of forest products and services. Methods for using resources to benefit people while maintaining functioning ecosystems are employed.” Clearly, this statement in its entirety refers to the 3.3 million BDNF and does not <u>require</u> continued livestock grazing in the North and West Big Hole project area. If the No Grazing Alternative is selected for implementation, the project area would not contribute towards the Forest desired condition for supporting livestock grazing. Conversely, if an action alternative is selected, the project area will contribute toward the Forest desired condition for supporting livestock grazing. The DEIS analyzes different methods for using resources while maintaining functioning ecosystems; including one alternative proposing non-use of the grazing resource and three alternative methods for using the resource.</p>
5-6	<p>Comment: <i>How can the no action alternative [sic] a serious alternative if the FS says it must graze to meet range management objectives. If there were no cows, there would be no need for range management objectives. The FS seems to take the position that rangelands are suitable for livestock grazing based on factors like vegetation composition, and so forth, that it must graze them. This is like suggesting that because there are trees on the forest that could be logged, the FS has an obligation to log them—an obviously silly argument, especially when logging might jeopardize other forest resources. The same thing can be said about grazing. Grazing has impacts on other forest values, and to ignore those values to sustain local private businesses is a failure to manage these lands for the “public good”.</i></p> <p>Response: Please refer to the response to comments 5-3 through 5-5. The DEIS discloses potential grazing impacts to other forest values and effects of the alternatives to social and economic values.</p>
5-7	<p>Comment: <i>Perhaps the greatest impact of continued livestock grazing is on species that depend on aquatic habitat including wet meadows, riparian zones, and seeps/springs. Among the species of concern are Arctic Grayling, Westslope Cutthroat trout, Western Toad, Sage Grouse, and Western Pearlshell mussel. The FS should also consider the Columbia spotted frog which is known for this part of Montana and is currently a candidate for listing under the ESA. http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=D027</i></p>

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	<p><i>As with other species mentioned above damage to wetlands and riparian areas impacts the frog. Given that livestock are the major factor impacting riparian areas it behooves the FS to evaluate how they are going to protect riparian/wetland areas and dependent species and still graze livestock.</i></p> <p><i>This is acknowledged by the FS where the No Action alternative is listed in Table 21 as having the greatest likelihood of persistence of the above named species, as well as the most rapid rate of recovery for stream channels and riparian zones. The FS must explain why it is not going to choose the alternative that has the greatest recovery and least amount of impact on endangered species and candidate species.</i></p> <p>Response: The Columbia spotted frog is not a candidate for listing under ESA in Montana. The Montana state ranking for this species (S4) suggests it is secure. The S4 ranking is in a scale that ranges from S5 (common and widespread) to S1 (At high risk because of extremely limited and/or rapidly declining population numbers, range and/or habitat).</p> <p>An EIS discloses the direct, indirect and cumulative environmental impacts that would result from the proposed action and other alternatives (DEIS, Chapter 3). Decision rationale for the selected alternative will be disclosed in the Record of Decision.</p>
5-8	<p>Comment: <i>Grayling are found downstream (and in one case upstream) of many of the streams in this allotment. Thus livestock has the potential to degrade grayling habitat and populations. Page 636 etc. Eight allotments (Seymour, Fishtrap, Pintler, Mussigbrod, Ruby Creek, Monument, Pioneer, and Saginaw) have Total Daily Maximum Daily Loads (TMDL's) streams that are on the states 303d list. Arctic grayling may not be in any of the streams, but they do live downstream. Thus impacts to water quality and habitat directly affect grayling. For instance, sedimentation in streams negatively impacts the quality of water and habitat for Arctic grayling even if they are not found in the specific streams on allotments. Pounding of wet meadows by reducing the sponge factor of the soils decreases late season water flows, which have been established as one of the factors negatively impacting grayling.</i></p> <p><i>Grazing can remove stream side vegetation and widen stream channels which can warm the water. Water temperature is a major issue for grayling on the Big Hole River. In some summers during low flows water temperatures become lethal. Furthermore, historically many of these streams no doubt supported grayling and restoring grayling to them is critical to the long term recovery of the grayling. Therefore, the FS must manage these streams and uplands in such a manner as to create suitable grayling habitat and potential for grayling recovery.</i></p> <p>Response: The objective is for all streams to meet the clean water act and provide suitable habitat for desired aquatic species. Grayling are discussed in the DEIS and will be carried forward into the FEIS and dROD.</p>

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5-9	<p>Comment: <i>Although no sage grouse are currently known to nest or live on the forest, there is historic evidence for their occurrence. Thus continued cattle grazing could inhibit full recovery of the species by reducing habitat quality. Sage grouse also impacted by livestock impacts on wet meadows as this is the main foraging ground for young sage grouse chicks in their first few weeks of life. Removal of cover, as well as the shrinkage of wet meadow due to soil compaction by hooves negatively impacts sage grouse.</i></p> <p>Response: Impacts to wet meadow habitat and impacts to sage-grouse will be added to the FEIS.</p>
5-10	<p>Comment: <i>Fences are a major cause of mortality. Sage grouse are poor fliers and often fly into fences. Put fences provide perches for avian predators. Sage grouse have been shown to avoid fences for up to a half mile on either side of the fenceline. Thus the presence of fencing and creation of new fencing will eliminate or degrade sage grouse habitat further.</i></p> <p>Response: Fencing guidelines following Conservation Recommendations for Greater Sage-grouse and the Montana Sage-grouse working group recommendations were incorporated into the project design and effects of fencing to sage grouse were analyzed (DEIS, Chapter 3, 812-29).</p>
5-11	<p>Comment: <i>While the DEIS does acknowledge that wolves are present, it does not acknowledge how the mere presence of livestock negatively impacts wolves. For instance, cattle have been shown to socially displace elk and other herbivores that wolves prey upon. This sets up a “conflict” in that without native prey, wolves are more likely to turn to the domestic animals for food. Also cattle are consuming forage that would otherwise support native herbivores, so in effect the presence of livestock is consuming the feed for native ungulates.</i></p> <p>Response: The DEIS (Chapter 3, pgs.735-740) acknowledges that management removal of wolves due to livestock conflicts is one of the major causes of mortality of wolves in this area and that wolves learn to prey on domestic livestock. According to MTFWP, elk as prey are not limited in the analysis area (DEIS, Chapter 5, Appendix B8) and there is no scientific evidence that shows a connection between wolves preying on livestock and the availability of other herbivores. Additionally, the DEIS acknowledges the likelihood of management removal of wolves in the analysis area is high due to the extensive history of cattle in these allotments with wolf related conflicts (DEIS, Chapter 3, pg. 735-740) however, members can be quickly replaced either from within or outside the pack and pups can be reared by another pack member should their parents die. Consequently, wolf populations can rapidly recover from severe disruptions, such as very high levels of human-caused mortality or disease (DEIS, Chapter 3, pg.734-735). This has been shown true in the analysis area and throughout the three federal recovery areas for the Grey Wolf (NWM, CID, and the GYA). Since reintroduction of wolves, numbers in both Idaho and Montana have increased substantially</p>

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	(600%+) and maintained current levels, even in light of management removal and hunting mortality (DEIS, Chapter 3, pg.735-740, figures 1 and 2).
5-12	<p>Comment: <i>Lynx are present in some parts of this area. Livestock can negatively impact aspen, willows and other habitat that is used by snowshoe hare and are important to lynx, thus livestock can indirectly impact lynx.</i></p> <p>Response: Lynx have not been recently documented in the project area and impacts to lynx and snowshoe hare habitat was analyzed in detail in the DEIS (Chapter 3, pg. 728-32; 749-50; 767-87).</p>
5-13	<p>Comment: <i>Grizzly bears also impacted by livestock. Not only is there the potential conflict that may result in lethal control, but riparian areas are critical in early spring as feeding areas for bears. Degradation of riparian [sic] areas negatively impacts bears.</i></p> <p>Response: Riparian areas are foraging areas for grizzly bears in the spring for vegetation and foraging for wildlife carcasses. The Biological Opinion (BO) from the USFWS in May, 2013 analyzed the effects of the 2009 revision of the Beaverhead-Deerlodge National Forest Land and Resource Management Plan (Revised Forest Plan) on grizzly bears. Actions analyzed included existing livestock grazing similar to this project. The BO described key areas of Forest management that affect the grizzly bears' environment, mainly: access management, attractant management and developed sites, livestock management, vegetation management, fire management, and oil and gas leasing. Livestock management has the potential to result in adverse impacts to grizzly bears if livestock/grizzly bear conflicts occur. Impacts to riparian areas from livestock grazing are not considered a major threat to the species. The threat from livestock grazing contributing to management removal from livestock depredation was identified and used as an indicator of effects from the alternatives. The USFWS concluded that implementing the Revised Forest Plan (including ongoing livestock grazing) would not have negative effects on the status of the Yellowstone or NCDE grizzly bear populations (USDI FWS 2013, p. 74). Additionally, grizzly bears are opportunistic omnivores and will travel where they need to find food. Foraging habitat is not a limiting factor for grizzly bears.</p>
5-14 ⁵	<p>Comment: <i>We are also concerned about livestock impacts on pygmy rabbits. The species is declining due to impoverishment of sagebrush habitat, some of which is due to livestock grazing. Invasion of weeds for instance are linked to livestock and this degrades the habitat for pygmy rabbits.</i></p> <p>Response: Impacts to pygmy rabbits were analyzed in detail in the DEIS (Chapter 3, pg. 744-45; 750; 833-49).</p>

⁵ This comment was submitted with the letter May14, 2014. It was not included in the amended letter received May 16, 2014.

Comment No.	Comment and Response
	Overgrazing is documented as negatively impacting pygmy rabbits and this project does not propose overgrazing. A majority of the sagebrush in the analysis area is in a suitable condition for pygmy rabbits.

Letter No.6 – Hans Humbert/Dell Bacon Ranch

Comment No.	Comment and Response
6-1	<p>Comment: <i>The grazing [sic] of this permit [Pintler Creek] is very important in the economic bottom line of the Dell Bacon Ranch.</i></p> <p>Response: The DEIS (Chap. 1&2, pg. 1 & 11 and Chap. 3, pg. 5-39) recognizes range (livestock grazing), as one of the uses outlined in the Multiple-Use Sustained-Yield Act (MUSY) of 1960 (16 U.S.C. 528–531) and potential contributions to the social and economic sustainability of the local area.</p>
6-2	<p>Comment... <i>there are lots of references to weeds, species, shrubs and cattle and there [sic] impacts. The things that are referenced are historic.</i></p> <p><i>Weeds – specifically spotted knap, comes in on the traffic and wildlife. One logging infestation from the 1990's. Cows may spread seed to a limited degree but didn't start the problem.</i></p> <p>Response: We agree that many of the resource concerns identified for the Pintler Creek allotment, and other allotments, are likely a result of historic management practices and land uses. However, these resource concerns are also existing conditions that are being addressed through proposed actions for this project.</p>
6-3	<p>Comment: <i>Species – Not one side note on the degree of our ongoing drought. Water or the shortage there of will change species dramatically in a short period of time (1-2 years). Grazing [sic] will also affect species composition that is why we have monitoring and compliance standards.</i></p> <p>Response: It is recognized (DEIS, p. 215), and widely known that prolonged drought and excessive grazing can have a major impact on the productivity and species composition of rangelands. We agree that monitoring and compliance with grazing standards are needed to ensure that rangeland health is maintained, and can be maintained even during periods of drought.</p>
6-4	<p>Comment: <i>Shrubs – Predominately willow and sagebrush. Willow – a species that did a lot of dieing [sic] out in the</i></p>

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	<p><i>late 80's early 90's. Willow is a browse species. Look at elk number explosions, moose and mule deer growth. Willow needs disturbance to get established, that means riparian area bare dirt, it also needs proper conditions.</i></p> <p>Response: We agree that there can be natural fluctuations in plant populations over the long term due to drought, disease, insects, disturbance, etc., and that wildlife can impact plant populations with excessive browsing. This was identified in the DEIS on page 215, and in the effects discussion for most allotments (for example, see Shrub Cover on page 296 of the DEIS).</p>
6-5	<p>Comment: <i>Rest – As defined by the forest – no grazing for the year. Grass will benifit [sic] from this management. I believe similar results can be achieved with deferred grazing [sic] while not incurring the risks of a full standing crop (fire or wolfy rank stands). Pintlar Creek is used extinsevly [sic] by campers & outdoors man all of which use the fire at some time in the course of their activities. Old dead stands of grass are better with hoof action, seed shatter & fines removal when next spring comes.</i></p> <p>Response: It was recognized that deferred grazing can result in improved rangeland health conditions if compliance with allowable use standards is met on a consistent basis, but improvement was contingent on the range permittee's ability to recognize these standards before they were exceeded (DEIS, p. 299 – Proposed Action, Direct/Indirect Effects).</p>
6-6	<p>Comment: <i>I am also dependant [sic] on yearly grass and a cows productivity for my livelyhood [sic]. The turnover of personel [sic] has been astounding in the last 20 years, at least 6 (six) different range tech's in a dissaplen [sic] where two years is only a start. Rest is an easy action for meeting standards but I feel there are better ways to help the resource.</i></p> <p>Response: In regards to providing forage for livestock, please see Chapter 1 of the DEIS, Purpose of and Need For Action. Also see response to comment 6-5.</p>
6-7	<p>Comment: <i>The cow is often controled [sic] because that is easy but what of wildlife, seed, fertilizer, fire and on goes the list. These grass mangers [sic] need the flexibility to address problems as they occure [sic] with more than one response (off with the cow). Grass management with only the ability to affect cow numbers if fairly limited. Wildlife, fire, recreationists, irrigation, species, fertilizer, microbes all currently are not used to manage grass.</i></p> <p>Response: The DEIS focuses on cattle management because the purpose of the project is to update grazing management and infrastructure on allotments in the project area (DEIS, Chapter 1, page 11). The DEIS also discloses the cumulative effects from other activities in the project area including wildlife, fire and recreation. Irrigation would</p>

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	require acquisition of water rights currently not held by the agency. The ID team did not consider the use of commercial fertilizer because terrain severely limits mechanized application and is rarely used on native rangelands in the mountainous regions of Montana. Soil surveys (disclosed in the DEIS) did not identify concerns with the soil lacking microbes necessary to maintain soil productivity.

Letter No.7 – EPA – Region 8

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7-1	<p>Comment: <i>We appreciate the inclusion of language in Chapter 3 of the Draft EIS regarding Clean Water Act Section 303(d) listed streams. The Draft EIS identifies thirteen 303(d) listed streams in, or downstream of, the project area for which grazing is a probable source of impairment. The Draft EIS does not describe whether alternatives would be consistent with long-term water quality restoration plans and TMDLS for these streams. The EPA's policy is that management activities on National Forests do not result in further degradation of 303(d) listed waters and that they are consistent with long-term water quality restoration plans and TMDLS prepared by the State of Montana and the EPA to facilitate restoration. We recommend that the USFS evaluate whether the Preferred Alternative would be consistent with long-term water quality restoration plans and TMDLS and summarize this information in the Final EIS.</i></p> <p>Response: All of the TMDL listed streams in the project area will be managed so they do not result in further degradation. This is true for the proposed alternative and other action alternatives. The Forest Service is an active participant in the Big Hole watershed management groups and the decision will be consistent with management plans that have been developed through the TMDL process and current watershed group decisions.</p>
7-2	<p>Comment: <i>The Draft EIS indicates that increased sediment from grazing is a cause of many of the impairments in the project area. Consistent with our comments on the Beaverhead-Deerlodge Forest Plan and our scoping comments, we recommend that the USFS apply all reasonable soil, land and water conservation practices to avoid or minimize pollution from grazing, especially where grazing is a probable source of impairment. Alternative 4 includes, additional design measures and mitigation beyond those included in the proposed action including avoidance periods, cattle removal for 10 years on some pastures and additional infrastructure. The Draft EIS states that these design features and mitigations would allow the attainment of the proper functioning condition more quickly than the proposed action. For this reason, we recommend that the USFS implement the Alternative 4 design features and</i></p>

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	<p><i>mitigation in the allotments/pastures where there are 303(d) listed streams within or directly downstream.</i></p> <p>Response: Thank you for your comment. Your support of Alternative 4 will be considered in the decision-making process. All alternatives are consistent with clean water act, Alternative 4 is the best action alternative for rate of recovery in 303d listed streams so we will take your comments into consideration.</p>
7-3	<p>Comment: <i>It appears that the USFS is using proper functioning condition as the only means to assess whether all streams, including those that are included on the 303(d) list, are improving. We are concerned that considering proper functioning condition alone may not be sufficient to ensure 303(d) listed streams are restored on a timely basis. For example, the Draft EIS states that Miner Creek was historically found t be functioning and that the 2008 survey results show that is still the case. As a result, the Draft EIS concludes that current grazing practices appear to be creating conditions that would allow the attainment of properly functioning condition. Considering that Miner Creek continues to be a 303(d) listed stream, it is unclear whether properly functioning condition alone is adequate for evaluating the impact of grazing activities on surface waters and ensuring that management actions will continue to be consistent with long-term water quality restoration plans and TMDLs. Our scoping comments requested that the Drarft #IS describe aquatic/water quality effectiveness monitoring activities that have been, are or will be, carried out to evaluate the proposed project's effects on 303(d) listed streams. We recommend that the Final EIS provide further explanation of how proper function condition is an adequate measure for ensuring consistency with these requirements. If necessary to provide a more comprehensive analysis of the project's effects on streams, we recommend that the USFS also consider data and information from the State of Montana and local watershed restoration organizations when making management decisions.</i></p> <p>Response: All available information is used and we work with watershed groups regularly to ensure their involvement.</p> <p>PFC is not the only assessment methodology; we use a combination of quantitative and qualitative assessments (DEIS, Chapter 3, pg. 575-581) to rate specific streams and have quality data to support our calls. Miner Creek is an interesting example, it has been in excellent shape for a number of years and its presence on the 303d list does not change the fact that it is properly functioning. The state has not been very active in de-listing streams and most of the sediment in the Miner Creek drainage is derived from beaver activity and diversions downstream. We would be happy to work with DEQ to get this stream removed from the 303d list.</p>

Letter No.8 – AWR/WWP/NEC/MEDC

Note: The interdisciplinary team found it difficult to discern how some comments in this letter apply to livestock grazing in the project area and the analysis disclosed in the DEIS. To provide full public disclosure, comments are provided in their entirety. However, where the applicability of the comment is difficult to discern, text highlighted in yellow identifies what the interdisciplinary team thinks is the intent of the comment relative to livestock grazing in the project area and the DEIS analysis. As a result, the provided response is intended to address the yellow highlighted text. Yellow highlights will appear gray in printed copies of this document.

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8-1	<p>Comment: <i>This allotment management plan violates NEPA because the NEPA documents are not on the BDNF website for the public to see. This proposal needs to put the documents on the website and rescope and put out a new DEIS.</i></p> <p>Response: The DEIS was posted on the BDNF webpage during the comment period. Due to the large electronic size of the documents, the DEIS was posted on the web page as 3 separate electronic documents – Chapter1 and 2, Chapter 3 and Chapters 4 and 5. In addition, DEIS appendices were individually posted. A review of correspondence received during the DEIS comment period does not indicate anybody contacted the BDNF identifying problems accessing the web posted documents.</p>
8-2	<p>Comment: <i>Please better assess the cumulative, indirect, or direct effects of grazing allotment management on arctic grayling. The DEIS says that arctic grayling are not in the allotments but down stream of the allotments. If they are not in the allotments, why aren't they? Were they there before cattle grazing?</i></p> <p>Response: The analysis for arctic grayling has been updated in the FEIS.</p>
8-3	<p>Comment: <i>The North and West Big Hole Allotments Management Plan analysis of impacts on water quality are inadequate. In a situation parallel to that for soils, project area streams are already significantly degraded due to the combination of past management activities.</i></p> <p>Response: Existing condition, which includes effects from past and ongoing activities, and direct, indirect and cumulative effects to water quality from past, present, and reasonably foreseeable future actions are disclosed in the DEIS (Chapter 3, pg. 546-634).</p>
8-4	<p>Comment: <i>NFMA regulations state “fish and wildlife habitat shall be managed to maintain viable populations of existing native and desirable non-native species in the planning area... a viable population shall be regarded as one which has the estimated numbers and distribution of reproductive individuals to insure its continued existence is well</i></p>

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	<p><i>distributed in the planning area.” (36 C.F.R. 219.12.) Please demonstrate that there is a viable population of arctic grayling in the North and West Big Hole Allotments and in the Forest. Please formally consult with the U.S. FWS on the impact of this project on arctic grayling.</i></p> <p>Response: An analysis to show consistency with the NFMA regulation you cite, was done during Forest Planning and is found in Appendix D of the Beaverhead-Deerlodge Land and Resource Management Plan. Additionally, Appendix D of this DEIS provides a consistency review with NFMA and the Forest Plan. Arctic grayling are not federally listed under the Endangered Species Act and therefore, consultation with U.S. FWS is not necessary. Information on Arctic grayling will be updated in the FEIS.</p>
8-5	<p>Comment: <i>The Project Area is Within Occupied Grizzly Bear Habitat PLEASE FORMALLY CONSULT WITH THE U.S. FWS ON THE IMPACT OF THESE ALLOTMENTS ON GRIZZLY BEARS The agencies’ failure to complete ESA consultation before authorizing and implementing the Project would violate the ESA.</i></p> <p>Response: This project is not within occupied grizzly bear habitat (DEIS, Chapter 3, pg. 727-728, Appendix A7). This project fits within the project considered under the Region 1 Programmatic Biological Assessment for Activities that are not likely to adversely affect Canada Lynx, Grizzly bear and Designated Critical Habitat (October 2014). Compliance with this document can be found in the project record.</p>
8-6	<p>Comment: <i>The Big Hole Allotment Management Plan Project violates the Endangered Species Act, NEPA, NFMA and the APA. “The main cause of lynx mortality is starvation (USDA Forest Service 2007a, page 141). Therefore, lynx habitat conservation measures are currently focused on maintaining adequate quantities of winter snowshoe hare habitat. Livestock grazing (and trampling) has the potential to reduce the regeneration of aspen, conifer, and willow communities, which in turn could reduce the amount and quality of snowshoe hare habitat.”</i></p> <p>Response: Impacts to lynx foraging habitat from livestock grazing was analyzed in the DEIS (pages 767-787) in compliance with the NRLMD.</p>
8-7	<p>Comment: <i>The agencies concede that the Project is likely to adversely affect the lynx. However, FWS failed to prepare a biological opinion for the Project. Instead, the agencies rely on 5-year old biological opinion for the Region-wide Northern Rockies Lynx Management Direction. This Region-wide programmatic biological opinion cannot and does not adequately substitute for a Project-specific biological opinion. The agencies’ failure to complete ESA consultation before authorizing and implementing the Project violates the ESA. Additionally, the programmatic biological opinion relied upon does not address all the relevant factors for the Project and is not based on best</i></p>

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	<p><i>available science.</i></p> <p>Response: It was not determined that this project is likely to adversely affect lynx. We are not relying on a 5-year old biological opinion for the region-wide NRLMD for this project. Refer to comment 8-5.</p>
8-8	<p>Comment: <i>THE AGENCIES MUST COMPLETE A NEW BIOLOGICAL ASSESSMENT, BIOLOGICAL OPINION, INCIDENTAL TAKE STATEMENT, AND LYNX MANAGEMENT DIRECTION AMENDMENT FOR THE FOREST PLAN FOR LYNX. The agencies do not have in place a legally and scientifically adequate biological assessment, biological opinion, and incidental take statement for lynx for the Forest Plan for the BDNF. Although the agencies rely on the Forest Plan amendment appending the Northern Rockies Lynx Management Direction to the BDNF Forest Plan, those amendments are inadequate. The amendments fail to consider important factors and fail to use the best available science on necessary lynx habitat elements, including but not limited to, failing to include standards that protect key winter habitat.</i></p> <p>Response: The NRLMD is incorporated into our Forest Plan and this analysis includes consideration of best available science including the new LCAS (DEIS, Chapter 3, pg.730-732). Additionally, this project fits within the project considered under the Region 1 Programmatic Biological Assessment for Activities that are not likely to adversely affect Canada Lynx, Grizzly bear and Designated Critical Habitat (October 2014). Compliance with this document can be found in the project record. There is no designated critical habitat on the Forest (DEIS, Chapter 3, pg. 731).</p>
8-9	<p>Comment: <i>The Endangered Species Act requires the FS to insure that the Big Hole Allotments Management Plan is not likely to result in the destruction or adverse modification of critical habitat. 16 U.S.C. §1536(a)(2). Activities that may destroy or adversely modify critical habitat are those that alter the physical and biological features to an extent that appreciably reduces the conservation value of critical habitat for lynx. 74 Fed. Reg. 8644. The Northern Rockies Lynx Management Direction (NRLMD) as applied in the Lonesome Wood project violates the ESA by failing to use the best available science to insure no adverse modification of critical habitat. The NRLMD carves out exemptions from Veg Standards S1, S2, S5, and S6. In particular, fuel treatment projects may occur in the WUI even though they will not meet standards Veg S1, S2, S5, or S6, provided they do not occur on more than 6% of lynx habitat on each National Forest. See NRLMD ROD, Attachment 1, pages 2-3. Allowing the agency to destroy or adversely modify any lynx critical habitat has the potential to appreciably reduce the conservation value of such habitat. The agency cannot simply set a cap at 6% forest-wide without looking at the individual characteristics of each LAU to determine whether the project has the potential to appreciably reduce the conservation value. The ESA requires the use of the best</i></p>

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	<p><i>available science at the site-specific level. It does not allow the agencies to make a gross determination that allowing lynx critical habitat to be destroyed forest-wide will not appreciably reduce the conservation value.</i></p> <p><i>The FS violated NEPA by applying the above-mentioned exception without analyzing the impacts to lynx in the individual LAUs. The Lonesome Wood Project violates the NFMA by failing to insure the viability of lynx. According to the 1982 NFMA regulations, fish and wildlife must be managed to maintain viable populations of Canada lynx in the planning area. 36 C.F.R. 219.19. The FS has not shown that lynx will be well-distributed in the planning area. The FS has not addressed how the project's adverse modification of denning and foraging habitat will impact distribution. This is important because the agency readily admits that the LAUs already contain a "relatively large percentage of unsuitable habitat." The NRLMD ROD at 40 states that:</i></p> <p><i>The national forests subject to this new direction will provide habitat to maintain a viable population of lynx in the northern Rockies by maintaining the current distribution of occupied lynx habitat, and maintaining or enhancing the quality of that habitat.</i></p> <p><i>The FS cannot insure species viability here without addressing the impacts to the already low amount of suitable habitat. By cutting in denning and foraging habitat, the agency will not be "maintaining or enhancing the quality of the habitat."</i></p> <p><i>This project is in Canada habitat. In order to meet the requirements of the FS/USFWS Conservation Agreement, the FS agreed to insure that all project activities are consistent with the Lynx Conservation Assessment and Strategy (LCAS) and the requirements of protecting lynx critical habitat. The FS did not do so with its Lonesome Wood project analysis. This project will adversely affect lynx critical habitat in violation of the Endangered Species Act. The BA/BE needs to be rewritten to reflect this information to determine if this project will adversely modify proposed critical habitat for lynx and if so conference with USFWS.</i></p> <p>Response: Refer to comment 8-5 and 8-8. There is no lynx designated critical habitat on the BDNF (DEIS, Chapter 3, pg. 731).</p>
8-10	<p>Comment: <i>On March 31, 2008 Gloria Manning, Reviewing Officer for the Chief, issued instructions to the Forest Service regarding two of appellants' claims regarding the Northern Rockies Lynx Management Direction appeal. Please find a copy of our appeal attached. Claim 1 in the appeal submitted by Friends of the Wild Swan, Alliance for the Wild Rockies and Friends of the Clearwater alleged that the Forest Service violated the National Environmental Policy Act and Administrative Procedures Act by selecting arbitrary criteria to determine whether habitat was</i></p>

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	<p><i>occupied. Neither the FEIS nor the amended Conservation Agreement contains any justification for the criteria used to determine whether lynx occupy habitat on National Forests.</i></p> <p><i>Ms. Manning reviewed the appeal record and found no specific explanation for the selection of this date or indication of whether records of earlier sightings had been reviewed for their relevance or why those earlier records would not be otherwise considered in determining occupied lynx habitat."</i></p> <p><i>She instructed the Forest Service to provide documentation for the record that more fully describes the rationale for establishing that verified lynx observations or records since 1999, and not earlier, may be used as a basis for determining occupied lynx habitat. This documentation must be provided to all appellants. If the documentation was not in existence at the time the ROD was signed you will utilize Forest Service Handbook 1909.15, Chapter 18 to determine any subsequent actions that may be necessary as a result of this new information."</i></p> <p><i>Likewise in the Montanans for Multiple Use appeal Ms. Manning instructed the Forest Service to supplement the FEIS with an analysis of the economic effects associated with commercial timber harvest, in accordance with NEPA regulations at 40 CFR 1502.9. Utilize Forest Service Handbook 1909.15, Chapter 18, to determine any subsequent actions that may be necessary as a result of the new information."</i></p> <p><i>Because of instructions in the Northern Rockies Lynx Management Direction</i></p>
8-10 (cont)	<p>Comment (cont): <i>appeal decision the Forest Service is required to consult with the US Fish and Wildlife Service. This was not done in violation of the Endangered Species Act.</i></p> <p><i>The BDNF is home to the Canada lynx, listed as a Threatened species under the Endangered Species Act (ESA). In December 1999, the Forest Service and Bureau of Land Management completed their "Biological Assessment Of The Effects Of National Forest Land And Resource Management Plans And Bureau Of Land Management Land Use Plans On Canada Lynx" (Programmatic Lynx BA). The Programmatic Lynx BA concluded that the current programmatic land management plans "may affect, and are likely to adversely affect, the subject population of Canada lynx."</i></p> <p>Response: Refer to comment 8-5 and 8-8.</p>
8-11	<p>Comment: <i>Continued implementation of the Forest Plan constitutes a "taking" of the lynx. Such taking can only be authorized with an incidental take statement, issued as part of a Biological Opinion (B.O.) during of Section 7 consultation. The BDNF must incorporate terms and conditions from a programmatic B.O. into a Forest Plan amendment or revision before projects affecting lynx habitat, such as this one, can be authorized.</i></p>

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	<p><i>The Programmatic Lynx BA's "likely to adversely affect" conclusion was based upon the following rationale. Plans within the Northern Rockies:</i></p> <ul style="list-style-type: none"> <i>generally direct an aggressive fire suppression strategy within developmental land allocations. ...this strategy may be contributing to a risk of adversely affecting the lynx by limiting the availability of foraging habitat within these areas.</i> <i>allow levels of human access via forest roads that may present a risk of incidental trapping or shooting of lynx or access by other competing carnivores. The risk of road-related adverse effects is primarily a winter season issue.</i> <i>are weak in providing guidance for new or existing recreation developments. Therefore, these activities may contribute to a risk of adverse effects to lynx.</i> <i>allow both mechanized and non-mechanized recreation that may contribute to a risk of adverse effects to lynx. The potential effects occur by allowing compacted snow trails and plowed roads which may facilitate the movements of lynx competitors and predators.</i> <i>provide weak direction for maintaining habitat connectivity within naturally or artificially fragmented landscapes. Plans within all geographic areas lack direction for coordinating construction of highways and other movement barriers with other responsible agencies. These factors may be contributing to a risk of adverse effects to lynx.</i> <i>are weak in providing direction for coordinating management activities with adjacent landowners and other agencies to assure consistent management of lynx habitat across the landscape. This may contribute to a risk of adverse effects to lynx.</i>
8-11 (cont)	<ul style="list-style-type: none"> <i>fail to provide direction for monitoring of lynx, snowshoe hares, and their habitats. While failure to monitor does not directly result in adverse effects, it makes the detection and assessment of adverse effects from other management activities difficult or impossible to attain.</i> <i>forest management has resulted in a reduction of the area in which natural ecological processes were historically allowed to operate, thereby increasing the area potentially affected by known risk factors to lynx. The Plans have continued this trend. The Plans have also continued the process of fragmenting habitat and reducing its quality and quantity. Consequently, plans may risk adversely affecting lynx by potentially contributing to a reduction in the geographic range of the species.</i> <i>The BA team recommends amending or revising the Plans to incorporate conservation measures that would reduce or eliminate the identified adverse effects to lynx. The programmatic conservation measures</i>

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	<p><i>listed in the Canada Lynx Conservation Assessment and Strategy (LCAS) should be considered in this regard, once finalized</i> (Programmatic Lynx BA, at 4.)</p> <p>Response: Refer to comment 8-5 and 8-8.</p>
8-12	<p>Comment: <i>The Programmatic Lynx BA notes that the LCAS identifies the following risk factors to lynx in this geographic area:</i></p> <ul style="list-style-type: none"> • <i>Timber harvest and precommercial thinning that reduce denning or foraging habitat or converts habitat to less desirable tree species</i> • <i>Fire exclusion that changes the vegetation mosaic maintained by natural disturbance processes</i> • <i>Grazing by domestic livestock that reduces forage for lynx prey</i> • <i>Roads and winter recreation trails that facilitate access to historical lynx habitat by competitors</i> • <i>Legal (in Montana) and incidental trapping and shooting</i> • <i>Predation</i> • <i>Being hit by vehicles</i> • <i>Obstructions to lynx movements such as highways and private land development</i> <p><i>As evidenced by the fact that the Canada lynx is now listed under the Endangered Species Act and has critical habitat in the project area, it is clear that the BDNF must do more than follow its Forest Plan's weak protections provided for lynx. The DN did not demonstrate that the project and its analysis are consistent with all Standards contained in the Lynx Conservation and Assessment Strategy (LCAS) or lynx critical habitat. This is a violation of NFMA and the ESA.</i></p> <p>Response: Refer to comment 8-5 and 8-8. There is no designated lynx critical habitat on the BDNF (DEIS, Chapter 3, pg. 731).</p>
8-13	<p>Comment: <i>The DN did not adequately address the effects of grazing on landscape pattern, which is essential for protection of critical habitat. The LCAS require that the FS:</i></p> <p><i>Maintain suitable acres and juxtaposition of lynx habitat through time. Design vegetation treatments to approximate historical landscape patterns and disturbance processes.</i></p> <p><i>If the landscape has been fragmented by past management activities that reduced the quality of lynx habitat, adjust management practices to produce forest composition, structure, and patterns more similar to those that</i></p>

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	<p>would have occurred under historical disturbance regimes.</p> <p>Response: There is no designated lynx critical habitat on the BDNF (DEIS, Chapter 3, pg. 731).</p>
8-14	<p>Comment: <i>The LCAS sets mandatory Standards that would modify or amend the Forest Plan—steps the BDNF has thus far not accomplished. Important Programmatic Standards include:</i></p> <p><i>Identify key linkage areas that may be important in providing landscape connectivity within and between geographic areas, across all ownerships. (LCAS at 89.)</i></p> <p><i>Develop and implement a plan to protect key linkage areas on federal lands from activities that would create barriers to movement. Barriers could result from an accumulation of incremental projects, as opposed to any one project. (Id.)</i></p> <p><i>Map and monitor the location and intensity of snow compacting activities that coincide with lynx habitat, to facilitate future evaluation of effects on lynx as information becomes available. (LCAS at 83.)</i></p> <p><i>On federal lands in lynx habitat, allow no net increase in groomed or designated over-the-snow routes and snowmobile play areas by LAU.</i></p> <p>Response: Refer to comment 8-5 and 8-8.</p>
8-15	<p>Comment: <i>Among the standards set out in the LCAS are provisions to maintain denning habitat as discussed in the programmatic lynx BO:</i></p> <p><i>Denning Habitat - Within developmental land allocations, existing Plan direction to maintain old growth habitat was judged to be adequate to provide for lynx denning habitat for all geographic areas except the Great Lakes. (BO at 31.)</i></p> <p><i>However, the BDNF cannot meet lynx denning requirements unless it is meeting Forest Plan old-growth requirements. The Programmatic BA's analysis of the ability of the Forest Plans, as "amended" by the LCAS, to prevent a "taking" of the lynx is based upon the Forests' meeting such management standards. As the BDNF has not yet proved it is in compliance with old-growth species' viability standards or adequately dealing with forest wide old-growth declines, the project may not be in compliance with the LCAS.</i></p> <p>Response: Refer to comment 8-5 and 8-8. Livestock grazing is not a threat to nor does it impact lynx denning habitat (large downed woody debris) or old growth.</p>
8-16	<p>Comment: <i>It is not clear that the BDNF has a complete understanding of the current level of use of the project area</i></p>

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	<p><i>for snowmobiles and other motorized recreational users. Please analyze the cumulative impacts on lynx from the additional grazing, new roads, additional skid trails, and other logging access routes to be constructed in the allotments areas—roads/access routes that could be used by snowmobilers snowmobiles and other motorized recreational users, snowshoers, and cross country skiers long. These roads/access routes can also impact lynx habitat during all seasons because of increased access for humans.</i></p> <p>Response: Cumulative effects to lynx from all alternatives when compared to past present and future actions (including all motorized use) were considered in the DEIS (Chapter 3, pgs.773-787).</p>
8-17	<p>Comment: <i>From Ruggiero, et al. (1999: “Lynx metapopulation dynamics operate at regional scales” (p. 24). There must be maps and adequate discussion of the connectivity issue in the DN, making it possible to see the landscape features that affect connectivity and metapopulation dynamics within and between LAUs both within and outside the project area, a goal of the LCAS mapping requirement.</i></p> <p><i>The very existence of roads and compacted travel routes from motorized vehicles in snow adversely affect lynx because of the advantage provided for other predators that normally wouldn’t be in portions of the project area in winter.</i></p> <p>Response: Livestock grazing has not been shown to impact connectivity within Lynx Analysis Units because it does not create barriers for lynx movement or reduce the potential for lynx to travel through the LAUs if they chose to do so. Cumulative effects to lynx from all alternatives when compared to past present and future actions (including all motorized use) were considered in the DEIS (Chapter 3, pgs. 773-787).</p>
8-18	<p>Comment: <i>Any assumption that a project will not adversely impact the lynx simply because LCAS standards and guidelines are met has never been verified. These management guidelines are merely a guess for lynx management, developed by the FS and other government agencies. There has never been an independent scientific peer review of these guidelines, including by lynx experts such as those who prepared the Ruggiero, et al. (1999) research paper upon which the LCAS is largely based.</i></p> <p>Response: The assumption that the project will not adversely impact lynx was not stated in the DEIS. Refer to comment 8-8.</p>
8-19	<p>Comment: <i>The issue of providing for the larger landscape needs of far-ranging forest carnivores (including the grizzly bear, gray wolf, wolverine, fisher, pine marten, lynx, goshawk, etc.) reveals the need to utilize the principles of Conservation Biology on a landscape level. Core areas of relatively undisturbed habitats need to be maintained.</i></p>

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	<p><i>Linkages with other core areas need to be established, providing sufficient habitat components so the linkages, or corridors, are functional for genetic interchange purposes. Both core areas and linkages should be the focus of the watershed rehabilitation and recovery discussed above (such as road removal). Buffer zones around core areas should also be recognized in their contribution to habitat needs for these wildlife species.</i></p> <p>Response: This project does not propose road removal as mentioned in this comment. Impacts of livestock grazing on forest carnivores such as grizzly bear, grey wolf, wolverine, fisher and lynx were analyzed in the DEIS (Chapter 3, pgs.752, 753-766, 767-787, 788-803, and Appendix B8). Livestock grazing has not been shown to impact goshawk and pine marten are not considered a species of concern in the State of Montana. Livestock grazing is not suspected to impact linkage areas and there is no science indicating grazing as proposed will impact core areas of secure habitat for wildlife.</p>
8-20	<p>Comment: <i>None of the so-called cumulative effects discussions adequately discloses the effects of past management activities in a logically-defined analysis area, on land of any ownership, to the issue of how those projects have affected the fuel situation. There is no discussion of the cumulative effects of this project and other management activities in violation of NEPA, NFPA and the APA.</i></p> <p>Response: The ID team finds it difficult to respond to this comment that appears to take issue with a lack of cumulative effects analysis from past projects in relation to the existing “fuel situation” because the purpose of this project is to update livestock grazing management. Typically, analysis of the “fuel situation” is associated with vegetation management projects designed to reduce hazardous fuels near developed property. As a result, we are unable to discern, based on this comment, how the cumulative effects analysis disclosed in the DEIS for each resource analyzed in detail, relative to the project purpose of updating livestock management, is inadequate.</p>
8-21	<p>Comment: <i>The BDNF Plan fails to identify and monitor a management indicator species (MIS) for aspen habitats even though the agency continues to implement management activities such as these Allotments Management Plan within aspen and mixed aspen/conifer stands.</i></p> <p><i>Page 3-47 of the South Fork and Watkins EA in the Gallatin N.F. states: “Livestock grazing (and trampling) has the potential to reduce the regeneration of aspen, conifer, and willow communities, which in turn could reduce the amount and quality of snowshoe hare habitat.”</i></p> <p><i>Please examine how livestock grazing will affect apsen [sic] in these allotments.</i></p>

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	Response: Livestock grazing effects to aspen has been added to the vegetation section of the EIS (pg. 288).
8-22	<p>Comment: <i>Disclose all Beaverhead-Deerlodge National Forest (BDNF) Forest Plan requirements for allotments and explain how the Project complies with them</i></p> <p>Response: This information is disclosed in Appendix D (Forest Plan Consistency) of the DEIS.</p>
8-23	<p>Comment: <i>Disclose the acreages of past, current, and reasonably foreseeable logging, grazing, and road-building activities within the allotment areas</i></p> <p>Response: Acres of past logging activities within the allotment areas are disclosed in the DEIS Appendices – specifically the “Project Area Tables”. Acres grazed by livestock are described in the existing condition for range and invasive species in the DEIS. Existing road densities are disclosed in the existing condition for terrestrial wildlife.</p>
8-24	<p>Comment: <i>Solicit and disclose comments from the Montana Department of Fish, Wildlife, and Parks and the U.S. Fish and Wildlife Service regarding the impact of the allotments on fish and wildlife habitat</i></p> <p>Response: Initial scoping comments provided by MFWP and ID team responses are disclosed in Appendix C of the DEIS. US Fish and Wildlife Service and MFWP did not provide comments on the DEIS.</p>
8-25	<p>Comment: <i>Solicit and disclose comments from the Montana Department of Environmental Quality regarding the impact of the Project on water quality</i></p> <p>Response: The initial scoping letter was sent to DEQ. No comments were received.</p>
8-26	<p>Comment: <i>Disclose the biological assessment for the candidate, threatened, or endangered species with potential and/or actual habitat in the allotment areas</i></p> <p>Response: The Biological Assessment is submitted to US Fish and Wildlife Service prior to publication of a Record of Decision. When the Biological Assessment is finalized, it will be published on the BDNF web page.</p>
8-27	<p>Comment: <i>Disclose the biological evaluation for the sensitive and management indicator species with potential and/or actual habitat in the Allotment areas</i></p> <p>Response: Analysis of sensitive species and MIS is disclosed in the, botany, aquatics and terrestrial wildlife sections of the DEIS and the specialist reports comply with the requirements of a biological evaluation (pgs. 356-430; 635-</p>

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	713; 723-852; Appendix B8).
8-28	<p>Comment: <i>Disclose the current, during-project, and post-project road densities in the Allotment areas</i></p> <p>Response: Open Motorized Road and Trail Densities (OMRTD) are disclosed (DEIS, pg. 748).</p>
8-29	<p>Comment: <i>Disclose the BDNF's record of compliance with state best management practices regarding stream sedimentation from ground-disturbing management activities;</i></p> <p>Response: Required monitoring of State BMPs applies to timber harvest activities. This information is not disclosed in the DEIS because the purpose of the project is to update grazing management practices.</p>
8-30	<p>Comment: <i>Disclose the BDNF's record of compliance with the additional monitoring requirements set forth in previous DN/FONSIs and RODs on the BDNF</i></p> <p>Response: Forest Plan monitoring reports are electronically available on the BDNF web page.</p>
8-31	<p>Comment: <i>Disclose the results of the field surveys for threatened, endangered, sensitive, and rare plants in each of the proposed units</i></p> <p>Response: Sensitive plant information by allotment and pasture is disclosed in DEIS under the Existing Condition starting on page 366 (also Table 3 of the Sensitive Plant Report). This includes information gathered from field surveys.</p>
8-32	<p>Comment: <i>Disclose the level of current noxious weed infestations in the Allotment areas and the cause of those infestations</i></p> <p>Response: The existing environment for noxious weeds is disclosed in the DEIS (Chapter 3, pg. 221-369).</p>
8-33	<p>Comment: <i>Disclose the impact of livestock grazing on noxious weed infestations and native plant communities</i></p> <p>Response: The effects analysis for noxious weeds is disclosed in the DEIS (Chapter 3, pg. 221-369).</p>
8-34	<p>Comment: <i>Disclose the amount of detrimental soil disturbance that currently exists in each allotment from previous logging and grazing activities</i></p> <p>Response: Most soil disturbance, detrimental or not, in older harvest areas has recovered completely. Recent harvest has affected very small areas within some allotments and monitoring has demonstrated that those activity areas are</p>

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	<p>well within soil quality standards.</p> <p>Please refer to the discussion under the “Soil Quality Standards” heading for each allotment in the Existing Condition section for estimates of grazing detrimental soil disturbance (DEIS, Chapter 3, pg. 436-469, Tables 16-26).</p>
8-35	<p>Comment: <i>Disclose the expected amount of detrimental soil disturbance in each allotment caused by grazing and prior to any proposed mitigation/remediation</i></p> <p>Response: Existing condition and soil alternative comparison tables includes information on how current livestock management has affected soil condition (DEIS, Chapter 3, pg. 431-469; Tables 15-25).</p>
8-36	<p>Comment: <i>Disclose the expected amount of detrimental soil disturbance in each allotment</i></p> <p>Response: Refer to responses 8-34 & 8-35.</p>
8-37	<p>Comment: <i>Disclose the analytical data that supports proposed soil mitigation/remediation measures</i></p> <p>Response: Grazing management strategies that maintain or improve range vegetation have the same effect on soil. The concepts supporting this relationship are discussed (DEIS, Chapter 3, pg. 435-469).</p>
8-38	<p>Comment: <i>Disclose the timeline for implementation</i></p> <p>Response: Projected implementation for the selected alternative will be disclosed in the Record of Decision.</p>
8-39	<p>Comment: <i>Disclose the funding source for non-commercial activities proposed</i></p> <p>Response: An EIS discloses the direct, indirect and cumulative environmental impacts that would result from the proposed action and other alternatives (DEIS, page viii). Funding sources are identified during project implementation, not during planning stages, and as a result are not disclosed in the DEIS.</p>
8-40	<p>Comment: <i>Disclose the current level of old growth forest in each third order drainage in the Allotment areas</i></p> <p>Response: An EIS discloses the direct, indirect and cumulative environmental impacts that would result from the proposed action and other alternatives (DEIS, page viii). Because livestock management practices do not alter old growth forest characteristics, there are no impacts disclosed.</p>
8-41	<p>Comment: <i>Disclose the method used to quantify old growth forest acreages and its rate of error based upon field</i></p>

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	<p><i>review of its predictions</i></p> <p>Response: Please see response to comment 8-40. Old growth forest acres are not quantified in the DEIS.</p>
8-42	<p>Comment: <i>Disclose the historic levels of mature and old growth forest in the Allotment areas</i></p> <p>Response: Please see response to comment 8-40.</p>
8-43	<p>Comment: <i>Disclose the level of mature and old growth forest necessary to sustain viable populations of dependent wildlife species in the area;</i></p> <p>Response: Please see response to comment 8-40.</p>
8-44	<p>Comment: <i>Disclose the amount of current habitat for old growth and mature forest dependent species in the Allotment areas</i></p> <p>Response: Please see response to comment 8-40.</p>
8-45	<p>Comment: <i>Disclose the amount of habitat for old growth and mature forest dependent species that will remain after Project implementation</i></p> <p>Response: Please see response to comment 8-40.</p>
8-46	<p>Comment: <i>Disclose the method used to model old growth and mature forest dependent wildlife habitat acreages and its rate of error based upon field review of its predictions</i></p> <p>Response: Please see response to comment 8-40.</p>
8-47	<p>Comment: <i>Disclose the amount of big game (moose and elk) hiding cover, winter range, summer range and security currently available in the area</i></p> <p>Response: Refer to comment 4-29. All acres in the allotments can be considered summer range for moose and elk. Livestock grazing as proposed does not impact hiding cover or security for this species so was not discussed in detail.</p>
8-48	<p>Comment: <i>Disclose the amount of big game (moose and elk) hiding cover, winter range, summer range and security during Project implementation</i></p> <p>Response: Refer to comment 8-47</p>

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8-49	<p>Comment: <i>Disclose the amount of big game (moose and elk) hiding cover, winter range, and security after implementation</i></p> <p>Response: Refer to comment 8-47</p>
8-50	<p>Comment: <i>Disclose the method used to determine big game hiding cover, winter range, summer range and security, and its rate of error as determined by field review</i></p> <p>Response: Refer to comment 8-47</p>
8-51	<p>Comment: <i>Disclose the amount of forage in big game winter and summer range before and after grazing</i></p> <p>Response: Refer to comment 8-47</p>
8-52	<p>Comment: <i>Disclose if the forest has monitored population trends of MIS</i></p> <p>Response: The Forest Plan Monitoring Report can be found in the project record.</p>
8-53	<p>Comment: <i>Disclose the impact of climate change on the efficacy of the proposed treatments</i></p> <p>Response: For all action alternatives, actual annual livestock forage consumption is limited by AULs. As annual forage production varies in response to annual variations in weather patterns or longer term climate changes, the action alternatives continue to limit forage consumption regardless of actual forage production.</p>
8-54	<p>Comment: <i>Disclose the impact of the proposed project on the carbon storage potential of the area</i></p> <p>Response: Carbon is primarily stored in the soil A horizon. The DEIS discloses the soil productivity of the project area (Chapter 3, pg. 434-469). As soil production increases, there is a corresponding increase in carbon storage.</p>
8-55	<p>Comment: <i>Disclose the baseline condition, and expected sedimentation during and after activities, for all streams in the area</i></p> <p>Response: Baseline condition is disclosed in the existing condition (Chapter 3, pg. 552-575) and expected sedimentation is disclosed in the effects section of the document (Chapter 3, pg. 576-579).</p>
8-56	<p>Comment: <i>Disclose maps of the area that show the following elements:</i></p> <p><i>1. Past, current, and reasonably foreseeable logging units in the Allotment areas;</i></p>

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	<p>2. Past, current, and reasonably foreseeable grazing allotments in the project areas; 3. Hiding cover in the Allotment areas according to the Forest Plan definition; 4. Old growth forest in the Allotment areas; 5. Big game security areas; 6. Moose winter range;</p> <p>Response: Maps of past vegetation management activities considered during cumulative effects analysis are mapped in Appendix A8 of the DEIS. Grazing allotments are mapped in Appendix A1 of the DEIS. The Forest Plan does not include a definition of hiding cover. Old growth and big game security areas are not mapped because the project proposal (livestock grazing) does not alter old growth characteristics or wildlife security areas (see Forest Plan definition). Please refer to the response to comment 4-29 about big game winter range.</p>
8-57	<p>Comment: Please better address the ecological, social and ascetic impact of current noxious weed infestations within the allotment areas. Include an analysis of the impact of the actions proposed by this project on the long and short term spread of current and new noxious weed infestations. What treatment methods will be used to address growing noxious weed problems? What noxious weeds are currently and historically found within the allotment areas? Please include a map of current noxious weed infestations which includes knapweed, Saint Johnswort, cheat grass, bull thistle, Canada thistle, hawkweed, hound's-tongue, oxeye daisy and all other Category 1, Category 2 and Category 3 weeds classified as noxious in the MONTANA COUNTY NOXIOUS WEED LIST.</p> <p>Response: Impacts of noxious weeds are analyzed by alternative and allotment (DEIS, pgs. 275- 355). Noxious weed presence by grazing allotment disclosed (DEIS, Table 4, pgs. 218-19). Treatment methods used are discussed (DEIS, pg. 219). Maps are disclosed (DEIS, Appendix A3, North and West Weed Maps).</p>
8-58	<p>Comment: Are yellow and orange hawkweeds present within the allotment areas?</p> <p>Response: Noxious weed presence by grazing allotment disclosed (DEIS, Table 4, pgs. 218-19).</p>
8-59	<p>Comment: Please address the cumulative, direct and indirect effects of the proposed project on weed introduction, spread and persistence that includes how weed infestations have been and will be influenced by the following management actions: road construction including new permanent and temporary roads, and skid trails proposed within this project; opening and decommissioning of roads represented on forest service maps; ground disturbance and traffic on forest service template roads, mining access routes, and private roads; and grazings. What allotment have existent noxious weed populations and what methods will be used to assure that noxious weeds are not spread</p>

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	<p><i>into other areas of the forest?</i></p> <p>Response: See comment 8-57.</p>
8-60	<p>Comment: <i>Noxious weeds are not eradicated with single herbicide treatments. A onetime application may kill an individual plant but dormant seeds in the ground can still sprout after herbicide treatment. Thus, herbicides must be used on consistent, repetitive schedules to be effective. What commitment to a long-term, consistent strategy of application is being proposed for each weed infested area within the proposed action area? What long term monitoring of weed populations is proposed?</i></p> <p>Response: See comment 8-57.</p>
8-61	<p>Comment: <i>When areas treated with herbicides are reseeded on national forest land, they are usually reseeded with exotic grasses, not native plant species. What native plant restoration activities will be implemented in areas disturbed by the actions proposed in this project? Will disturbed areas including road corridors, skid trails, and burn units be planted or reseeded with native plant species?</i></p> <p>Response: Past, Present, and Reasonably Foreseeable Future Actions in the Project Area are disclosed (DEIS, Chapter 3, pg. 3); does not include any seeding projects.</p>
8-62	<p>Comment: <i>The scientific and managerial consensus is that prevention is the most effective way to manage noxious weeds. The Forest Service concedes that preventing the introduction of weeds into uninfested areas is “the most critical component of a weed management program.” The Forest Service’s national management strategy for noxious weeds also recommends “develop[ing] and implement[ing] forest plan standards . . .” and recognizes that the cheapest and most effective solution is prevention. Which units within the allotment areas currently have no noxious weed populations within their boundaries? What minimum standards are in the BDNF’s Plan to address noxious weed infestations? Please include an alternative in the DEIS that includes land management standards that will prevent new weed infestations by addressing the causes of weed infestation. The failure to include preventive standards violates NFMA because the Forest Service is not ensuring the protection of soils and native plant communities. Additionally, the omission of an EIS alternative that includes preventive measures would violate NEPA because the Forest Service would fail to consider a reasonable alternative.</i></p> <p>Response: See comment 8-57.</p> <p>The Forest Plan goal (pg. 44) is to prevent, reduce, or eliminate infestations of non-native or noxious weed species with emphasis on areas where there is a high likelihood of establishment and spread.</p> <p>Emphasis is on prevention of weeds in the Beaverhead-Deerlodge Noxious Weed Control Final Environmental Impact</p>

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	Statement and Record of Decision signed in 2002.
8-63a	<p>Comment: <i>What threatened, endangered, rare and sensitive plant species and habitat are located within the proposed allotment areas?</i></p> <p>Response: See DEIS pgs. 220, 358-366.</p>
8-63b	<p>Comment: <i>What <u>standards</u> will be used to protect threatened, rare, sensitive and culturally important plant species and their habitats from the grazing proposed in these allotments?</i></p> <p>Response: The 2009 Forest Plan does not have “standards” for sensitive plant management, but there is one Forest Plan goal (pg. 43) and design criteria for sensitive plants in the alternatives (DEIS, Chapter 2, pg. 23).</p>
8-63c	<p>Comment: <i>Describe the potential direct and indirect effect of the proposed grazings [sic] on rare plants and their habitat.</i></p> <p>Response: The requested analysis is disclosed in Chapter 3, Affected Environments and Analysis, under Sensitive Plants, beginning on page 382.</p>
8-64	<p>Comment: <i>What impact will grazing have on whitebark pine?</i></p> <p>Response: See DEIS, pgs. 382-429. A comparison table of impact determinations for each allotment and alternative is presented (DEIS, pgs. 430-431).</p>
8-65a	<p>Comment: <i>Are whitebark pine seedlings and saplings present in the allotments? What surveys have been conducted to determine presence and abundance of whitebark pine re-generation?</i></p> <p>Response: Yes, whitebark pine seedlings and saplings are present within the allotments. No surveys specific to whitebark pine presence or re-generation were conducted for the project. VMap was used to model the presence of whitebark pine, though due to the limitations of VMap, (only mapping dominant vegetation accounting for 40% or more cover) it was assumed that whitebark pine is present in all 11 of the allotments (DEIS, pg. 366).</p>
8-65b	<p>Comment: <i>If whitebark pine seedlings and saplings are present, what measures will be taken to protect them?</i></p> <p>Response: No whitebark pine specific mitigation measures are included, as impacts to whitebark pine from proposed livestock grazing levels shall be minimal. The included mitigation measures for the proposed action (DEIS, pg. 23)</p>

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	and Alternative 4 (DEIS, pg. 26) would apply to sensitive plants, including whitebark pine.
8-65c	<p>Comment: <i>Have white pine blister rust surveys been accomplished? What is the severity of white pine blister rust in proposed action areas?</i></p> <p>Response: White pine blister rust surveys have not been done in conjunction with this project as white pine blister rust infection of whitebark pine is not associated with livestock grazing.</p> <p>Aerial detection surveys for forest insect and disease show no occurrence of blister rust within the allotments (USDA, Forest Service, Region 1, Insect & Disease Aerial Surveys 2013).</p>
8-66	<p>Comment: <i>For every project proposal, it is important that the results of past monitoring be incorporated into planning. All Interdisciplinary Team Members should be familiar with the results of all past monitoring pertinent to the allotment areas, and any deficiencies of monitoring that have been previously committed to. For that reason, we expect that the following be included in the NEPA documents or project files:</i></p> <ul style="list-style-type: none"> <i>A list of all past projects (completed or ongoing) implemented in the proposed allotment areas watersheds.</i> <i>The results of all monitoring done in the allotment areas as committed to in the NEPA documents of those past projects.</i> <i>The results of all monitoring done in the proposed allotment areas as a part of the Forest Plan monitoring and evaluation effort.</i> <i>A description of any monitoring, specified in those past project NEPA documents or the Forest Plan for proposed allotment areas, which has yet to be gathered and/or reported.</i> <p>Response: Project analysis is based on interdisciplinary team review of on-the-ground conditions, including previous projects not only in the project area but also in similar areas across the BDNF. The results of Forest Plan monitoring are available on the BDNF web page.</p>
8-67	<p>Comment: <i>For the proposal to be consistent with the Forest Plan, enough habitat for viable populations of old-growth dependent wildlife species is needed over the landscape. Considering potential difficulties of using population viability analysis at the project analysis area level (Ruggiero, et. al., 1994), the cumulative effects of carrying out multiple projects simultaneously across the BDNF makes it imperative that population viability be assessed at least at the forestwide scale (Marcot and Murphy, 1992). Also, temporal considerations of the impacts on wildlife population viability from implementing something with such long duration as a Forest Plan must be considered (id.) but this has never been done by the BDNF. It is also of paramount importance to monitor population during the implementation of</i></p>

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	<p><i>the Forest Plan in order to validate assumptions used about long-term species persistence i.e., population viability (Marcot and Murphy, 1992; Lacy and Clark, 1993).</i></p> <p><i>State-of-the-art conservation biology and the principles that underlie the agency's policy of "ecosystem management" dictate an increasing focus on the landscape-scale concept and design of large biological reserves accompanied by buffer zones and habitat connectors as the most effective (and perhaps only) way to preserve wildlife diversity and viability (Noss, 1993).</i></p> <p><i>The FS has stated: "Well distributed habitat is the amount and location of required habitat which assure that individuals from demes,⁶ distributed throughout the population's existing range, can interact. Habitat should be located so that genetic exchange among all demes is possible." (Mealey 1983.)</i></p> <p><i>The FS has acknowledged that viability is not merely a allotment areas consideration, that the scale of analysis must be broader:</i></p> <p><i>Population viability analysis is not plausible or logical at the project level such as the scale of the Dry Fork Vegetation and Recreation Restoration EA. Distributions of common wildlife species as well as species at risk encompass much larger areas than typical allotment areas and in most cases larger than National Forest boundaries. No wildlife species that presently occupy the allotment areas are at such low numbers that potential effects to individuals would jeopardize species viability. No actions proposed under the preferred alternative would conceivably lead to loss of population viability. (Lewis and Clark NF, Dry Fork EA Appendix D at p. 9.)</i></p> <p>Response: This comment is clearly associated with viability analysis for old growth related species at the Forest Plan level. This site-specific project is part of implementing the Forest Plan, not part of the process for producing the Forest Plan that concluded in 2009. In addition, the proposed action (continued livestock grazing) does not alter old growth forest characterizes or wildlife species that may reside there.</p>
8-68	<p>Comment: <i>The FS should firmly establish that the species that exist, or historically are believed to have been present in the analysis area are still part of viable populations such as arctic grayling. Since Forest Plan monitoring efforts have failed in this regard, it must be a priority for project analyses. Identification of viable populations is something that must be done at a specific geographic scale. The analysis must cover a large enough area to include a cumulative effects analysis area that would include truly viable populations. Analysis must identify viable populations of MIS, TES, at-risk, focal, and demand species of which the individuals in the analysis area are members in order to sustain viable populations.</i></p>

⁶Subpopulations.

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	<p>Response: A contention that the Forest Plan and associated management direction failed to protect species viability was raised during appeal of the 2009 Forest Plan. However, The Reviewing Officer for the Chief, in her 10/30/09 decision (Attachment 2, pg. 62-63) on appeals of the Forest Plan FEIS and ROD found “...the BDNF Revised Plan and its associated management direction adequately provides for wildlife species viability and complies with the 1982 NFMA viability requirements at 36 CFR 219.19.” Project level analysis of MIS and TES species is available in the DEIS. Unfortunately, this comment does not provide information about why the DEIS analysis is insufficient.</p>
8-69	<p>Comment: <i>Please examine how this project could affect grizzly bears, lynx, and wolverine and other species listed under the Endangered Species Act. Are you complying with lynx critical habitat requirements? Please examine how this project will affect all MIS and sensitive species. Please formally consult with the U.S. FWS on the effect of the project on wolverine.</i></p> <p>Response: Refer to comment 8-5 and 8-9. Impacts for the alternatives to MIS and sensitive species were addressed (DEIS, Chapter 3, Appendix B8).</p>
8-70	<p>Comment: <i>One of the biggest problems with the FS’s failure to deal forthrightly with the noxious weed problem on a forest wide basis is that the long-term costs are never adequately disclosed or analyzed. The public is expected to continuously foot the bill for noxious weed treatments—the need for which increases yearly as the BDNF continues the large-scale propagation of weeds, and fails to monitor the effectiveness of all its noxious weed treatment plans to date. There is no guarantee that the money needed for the present management direction will be supplied by Congress, no guarantee that this amount of money will effectively stem the growing tide of noxious weed invasions, no accurate analysis of the costs of the necessary post-treatment monitoring, and certainly no genuine analysis of the long-term costs beyond those incurred by site specific weed control actions.</i></p> <p>Response: Thank you for your comment. Outside the scope of this project.</p>
8-71	<p>Comment: <i>Our goals for the area include fully functioning stream ecosystems that include healthy, resilient populations of native fish, including arctic grayling. The highest priority management actions in the allotment areas are those that remove impediments to natural recovery. We request the FS design a restoration/access management plan for allotment areas streams that will achieve recovery goals. The task of management should be the reversal of artificial legacies to allow restoration of natural, self-sustaining ecosystem processes. If natural disturbance patterns are the best way to maintain or restore desired ecosystem values, then nature should be able to accomplish this task very well without human intervention (Frissell and Bayles, 1996).</i></p> <p>Response: Thank you for your comment. Outside the scope of this project.</p>

Comment No.	Comment and Response
8-72	<p>Comment: <i>We request a more careful analysis of the impacts to fisheries and water quality, including considerations of sedimentation, increases in peak flow, channel stability, risk of rain-on-snow events, and increases in stream water temperature. Please disclose the locations of seeps, springs, bogs and other sensitive wet areas, and the effects of grazing on these areas. Where livestock are permitted to graze, we ask that you assess the present condition and continue to monitor the impacts of grazing activities upon vegetation diversity, soil compaction, stream bank stability and subsequent sedimentation. Please disclose in the NEPA document the results of up-to-date monitoring of fish habitat and watershed conditions and how this project will affect the fish in the allotment areas.</i></p> <p>Response: This document represents the most up to date conditions we have on project streams and wetland conditions in the project area. Trends were developed based on historic information where available and all relevant condition data was utilized to determine riparian condition in the project area. Wetland distribution in the project area is extensive and specific conditions were established in a number of locations through qualitative assessments which can be found in the Hydrology map packets (Appendix A5).</p>
8-73	<p>Comment: <i>It is extremely important the FS disclose the environmental <u>baseline</u> for watersheds. Generally, this means their condition <u>before</u> grazing was initiated. For example, the baseline condition of a stream means the habitat conditions for fish and other aquatic species prior to the impacts of road building, logging, livestock grazing, etc. Therefore, proper disclosure of baseline conditions would mean estimates of stream stability, pool frequency conditions, and water temperature range—essentially the values of Riparian Management Objectives along with such parameters as sediment levels. When such information is provided, comparison with the current conditions (after impacts of development) will aid in the assessment of cumulative effects of all alternatives.</i></p> <p>Response: Our methodology for addressing stream condition is accurate and consistent across the project area. If you have baseline information for project streams prior to grazing we would appreciate that and utilize it but specific habitat metrics from project streams prior to grazing (over 100 years in the past) is not currently available.</p>
8-74a	<p>Comment: <i>Grazing may adversely affect soil productivity. NFMA requires the FS to “not allow significant or permanent impairment of the productivity of the land.” [36 C.F.R. § 219.27(a)(1).] NFMA requires the Forest Service to “ensure that grazing on National Forest System lands only where—soil, slope, or other watershed conditions will not be irreversibly damaged.” [16 U.S.C. 1604 (g)(3)(E).]</i></p> <p>Response: We agree and cite the same law (DEIS, Chapter 3, pg. 432). These data and this analysis by qualified Soil Scientists are to ensure that grazing on these allotments does not adversely affect soil productivity.</p>

Comment No.	Comment and Response
8-74b	<p>Comment: <i>Please disclose how the productivity of the land been affected in the allotment areas and forestwide due to noxious weed infestations, and how that situation is expected to change in the coming years and decades.</i></p> <p>Response: Please refer to the Range and Invasive Plants section for a discussion about existing noxious weed infestations and expected changes under each alternative (DEIS, Chapter 3, Range Table 4, pg. 218-219; 335-355). Also see the Beaverhead-Deerlodge National Forest Noxious Weed Control Environmental Impact Statement and Record of Decision (USDA, 2002) for the Forest-wide perspective.</p>
8-74c	<p>Comment: <i>Harvey et al., 1994 state:</i></p> <p><i>The ...descriptions of microbial structures and processes suggest that they are likely to provide highly critical conduits for the input and movement of materials within soil and between the soil and the plant. Nitrogen and carbon have been mentioned and are probably the most important. Although the movement and cycling of many others are mediated by microbes, sulfur phosphorus, and iron compounds are important examples.</i></p> <p><i>The relation between forest soil microbes and N is striking. Virtually all N in eastside forest ecosystems is biologically fixed by microbes... Most forests, particularly in the inland West, are likely to be limited at some time during their development by supplies of plant-available N. Thus, to manage forest growth, we must manage the microbes that add most of the N and that make N available for subsequent plant uptake.</i></p> <p><i>Lacy, 2001 examines the importance of soils for ecosystem functioning and points out the failure of most regulatory mechanisms to adequately address the soils issue. From the Abstract:</i></p> <p><i>Soil is a critical component to nearly every ecosystem in the world, sustaining life in a variety of ways—from production of biomass to filtering, buffering and transformation of water and nutrients. While there are dozens of federal environmental laws protecting and addressing a wide range of natural resources and issues of environmental quality, there is a significant gap in the protection of the soil resource. Despite the critical importance of maintaining healthy and sustaining soils, conservation of the soil resource on public lands is generally relegated to a diminished land management priority. Countless activities, including livestock grazing, recreation, road building, logging, and mining, degrade soils on public lands. This article examines the roots of soil law in the United States and the handful of soil-related provisions buried in various public land and natural resource laws, finding that the lack of a public lands soil law leaves the soil resource under protected and exposed to significant harm. To remedy this regulatory gap, this article sketches the framework for a positive public lands soil protection law. This article concludes that because soils are critically important building blocks for nearly every ecosystem on earth, an holistic approach to natural resources protection requires that soils be protected to</i></p>

Comment No.	Comment and Response
	<p><i>avoid undermining much of the legal protection afforded to other natural resources.</i></p> <p><i>The article goes on:</i> <i>Countless activities, including livestock grazing, recreation, road building, logging, mining, and irrigation degrade soils on public lands. Because there are no laws that directly address and protect soils on the public lands, consideration of soils in land use planning is usually only in the form of vaguely conceived or discretionary guidelines and monitoring requirements. This is a major gap in the effort to provide ecosystem-level protection for natural resources.</i></p> <p><i>The rise of an “ecosystem approach: in environmental and natural resources law is one of the most significant aspects of the continuing evolution of this area of law and policy. One writer has observed that there is a fundamental change occurring in the field of environmental protection, from a narrow focus on individual sources of harm to a more holistic focus</i></p>
8-74c (cont)	<p>Comment (cont): <i>on entire ecosystems, including the multiple human sources of harm within ecosystems, and the complex social context of laws, political boundaries, and economic institutions in which those sources exist.</i></p> <p><i>As federal agencies focus increasingly on addressing environmental protection from an holistic perspective under the current regime of environmental laws, a significant gap remains in the federal statutory scheme: protection of soils as a discrete and important natural resource. Because soils are essential building blocks at the core of nearly every ecosystem on earth, and because soils are critical to the health of so many other natural resources – including, at the broadest level, water, air and vegetation – they should be protected at a level at least as significant as other natural resources. Federal soil law (such as it is) is woefully inadequate as it currently stands. It is a missing link in the effort to protect the natural world at a meaningful and effective ecosystem level.</i></p> <p><i>...This analysis concludes that the lack of a public lands soil law leaves the soil resource under-protected and exposed to significant harm, and emasculates the environmental protections afforded to other natural resources.</i></p> <p><i>The problems Lacy (2001) identifies of regulatory mechanisms exists in Regional and Forest-level standards and other guidance applicable for the proposed project.</i></p> <p><i>Please provide estimates of current detrimental disturbance in all previously established activity areas in the watersheds, affected by the proposal. Please disclose the link between current and cumulative soil disturbance in</i></p>

Comment No.	Comment and Response
	<p><i>allotment areas watersheds to the current and cumulative impacts on water quantity and quality.</i></p> <p>Response: Previously established activity areas are associated with timber sales in watersheds affected by the proposal. Most soil disturbance, detrimental or not, in older harvest areas has recovered completely. Recent harvest has affected very small areas within some allotments and monitoring has demonstrated that those activity areas are well within soil quality standards. Estimates of current detrimental soil disturbance from grazing are provided for each allotment in the soil existing condition section (DEIS, Chapter 3, pg. pg. 436-469, Tables 16-26).</p> <p>The link between soil disturbance and water quality and quantity effects is complicated but in general is related to the distance between soil disturbance and streams. Therefore, soil disturbance alongside a stream will have a greater impact than that on an upper slope or ridge. Upland soil conditions, as described in this analysis, where vegetation and water resource management are the primary objectives have essentially no negative impact on water quality and quantity. Soil disturbance near streams is much more likely to negatively impact water quality and quantity and is discussed in the hydrology section (DEIS, Chapter 3, pgs. 552-574).</p>
8-75	<p>Comment: <i>Please disclose if there are any WQLS streams or TMDL streams in the allotment areas.</i></p> <p>Response: WQLS are disclosed (DEIS, Hydrology Section, Table 2, pg. 553-555)</p>
8-76	<p>Comment: <i>Please disclose measures of, or provide scientifically sound estimates of, detrimental soil disturbance or soil productivity losses (erosion, compaction, displacement, noxious weed spread) attributable to off-road vehicle use.</i></p> <p>Response: Off -road vehicles are restricted to roads and trails and cause little to no detrimental soil disturbance to lands where vegetation and water resource management are the principal objectives.</p>
8-77	<p>Comment: <i>Please disclose the results monitoring of weed treatments on the BDNF that have been projected to significantly reduce noxious weed populations over time, or prevent spread. This is an ongoing issue of land productivity.</i></p> <p>Response: See comment 8-57.</p>
8-78	<p>Comment: <i>It has been well-established that site-specific Biological Evaluations (BEs) or Biological Assessments (BAs) must be prepared for all actions such as this. Further, the Forest Service Manual requires that BEs/BAs consider cumulative effects. The Forest Service Manual states that project BEs/BAs must contain “a discussion of cumulative effects resulting from the planned project in relationship to existing conditions and other related projects” [FSM 2672.42(4)]. “Existing conditions” obviously are the current conditions of the resources as a result of past actions.</i></p>

Comment No.	Comment and Response
	Response: Refer to comment 8-5. The wildlife report in the project file satisfies the requirements of a BE (DEIS, Chapter 3, pgs.723).
8-79	<p>Comment: <i>Please evaluate all of the costs and benefits of this project. Please include a detailed list of all the costs to the agency and the public.</i></p> <p>Response: Many of the costs and benefits associated with a project are not quantifiable in financial terms. These costs and benefits are described qualitatively in the DEIS (Chap. 3, pg. 34) resource sections of this document and in “Social Impacts” subsection of the report on page 34. Title 40, Code of Federal Regulations for NEPA (40 CFR 1502.23) indicates:</p> <p>For the purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are qualitative considerations.</p>

Letter No.9– John, Kathy, Carl & Ellis Lewis

Comment No.	Comment and Response
9-1	<p>Comment: <i>As Lessee, we have voluntarily lowered cattle numbers from 217 pairs to 165. We have also shortened grazing term whenever needed.</i></p> <p>Response: We appreciate your willingness to work with the Forest Service on addressing resource concerns by reducing numbers voluntarily on your allotment. Specific existing condition and analysis for the Mussigbrod allotment are disclosed (DEIS, pgs. 212; 355).</p>
9-2	<p>Comment: <i>We suggested repairing stream in bender with logs. With authorization from Russ Riebe, we spent 80 hours of our time putting logs in stream. We have fenced out streams and fenced out the bender bottom completely. We monitor weeds and report back where they can be found. Maintain fence along neighboring property boundaries.</i></p> <p>Response: We appreciate your willingness to work with the Forest Service on addressing resource concerns by fencing, weed monitoring and stream restoration voluntarily on your allotment.</p>

Comment No.	Comment and Response
9-3	<p>Comment: <i>With low snow pack, springs did not run. This caused us to bring cattle off earlier. With a better snow pack cattle will distribute more evenly.</i></p> <p>Response: We appreciate your willingness to work with the Forest Service on addressing resource concerns by removing cattle early voluntarily on your allotment.</p>
9-4	<p>Comment: <i>Cattle grazing helps to reduce the fire danger. During the 2000 fire, we had cattle on the forest allotment. The fire did not burn as hot where the cattle had grazed. During the fire we put our cattle on our boundary to protect us from the fire. They tried to back burn on our ranch and it would not burn.</i></p> <p>Response: The Forest Service agrees that grazing can reduce fine fuels that carry wildfire, however grazing as a fuels management tool is outside the scope of the EIS.</p>
9-5	<p>Comment: <i>We feed lots of wild life every year. Wild life likes to follow the cattle, and eat the fresher grass, apposed to the old dead grass that hasn't been grazed.</i></p> <p>Response: The Forest Service agrees that proper grazing management is beneficial to wildlife.</p>

Letter No.10 – WWP/NEC/AWR

Comment No.	Comment and Response
10-1	<p>Comment: <i>While we are glad to see that the Forest Service recognized the requirement to analyze a “no grazing” alternative, in this case the No Action Alternative, right from the beginning, it is clear that there is a substantial prejudice in favor of livestock grazing above all other purposes. Under the heading “Major conclusions”, (DEIS, vii) it is claimed that the No Action Alternative would not:</i></p> <ul style="list-style-type: none"> <i>• Not meet applicable Forest Plan Standards for Range Management.</i> <i>• Not move the forest towards the Forest Wide goals for Range Management.</i> <i>• Not meet the Purpose and Need of updating the grazing management and infrastructure on the eleven domestic livestock grazing allotments to comply with the applicable Forest Plan direction.</i> <i>• Not address the three concerns (livestock in riparian areas, Westslope Cutthroat Trout and Western Toad populations and habitat, and stream bank stability) identified during scoping.</i>

Comment No.	Comment and Response
	<p><i>Please explain in detail how the Forest Service has reached these conclusions as they significantly contradict the analysis contained throughout the rest of the DEIS. For example, on page 716 of Chapter 3 it is stated that Western toad persistence and Westslope Cutthroat trout (WCT) persistence will have the “Greatest likelihood of persistence” under the No Action Alternative. In fact, in every case except the analysis in the Social and Economics section (which contains substantial flaws and lacks balance), the “no grazing” alternative is by far more beneficial than all of the grazing alternatives.</i></p> <p>Response: Please refer to the response to 5-2. In addition, a review of the aquatics section of the DEIS found numerous typographical errors. Corrections have been made to the FEIS.</p>
10-2	<p>Comment: <i>While it is true that the Forest Plan includes a desired condition for livestock grazing of, “People and communities benefit from programs and infrastructure that support livestock grazing.....”, it is also true that livestock grazing may also be incompatible with several other desired conditions identified in the Forest Plan. Specifically, “Ecological processes, which affect the chemical, physical, and biological components of the aquatic and terrestrial ecosystems and fully support designated beneficial uses, are present and functioning to provide the diversity of forest, shrub land, grassland, riparian, and aquatic communities.” “Conditions for self-sustaining or viable populations of native and desired non-native plant and animal species are supported within the natural capability of the ecosystem.” “Resources adversely affected by past management activities have been rehabilitated or the related public health and safety issues corrected.” The Forest Service must fully acknowledge and analyze the impacts of livestock grazing in the project area in terms of these other desired conditions. If the Forest Service is giving more weight to continued livestock grazing, please provide the legal and rational basis for this decision.</i></p> <p>Response: The above listed, and other Forestwide desired conditions are listed on page 11 of the Forest Plan. The DEIS focuses on the forestwide desired condition of “People and communities benefit from programs and infrastructure that support livestock grazing...” because the project being analyzed proposes updating livestock management practices. Other desired conditions, including those listed above, are achieved by applying Forest Plan standards. Consistency of the alternative with applicable Forest Plan standards is disclosed in DEIS, Appendix D. An EIS provides an analysis of environmental consequences from implementing the proposed action and its alternatives. Because an EIS is not a decision document, decision rationale is not provided. However, decision rationale will be provided, as appropriate, in the ROD, supported by the analysis in the final EIS.</p>
10-3	<p>Comment: <i>In addition to the “no grazing” alternative, the Forest Service should also include a Potential Natural Community (“PNC”) Alternative. This would serve as a true baseline from which to determine the impacts associated</i></p>

Comment No.	Comment and Response
	<p><i>with livestock grazing as well as the cumulative effects of other activities such as logging and mining, etc. In particular, a PNC alternative would answer the question, “what would this area be like if livestock grazing had never occurred”. In this way, the public can truly understand the impacts of continued livestock grazing in the project area and have a better understanding about what “restoration” really means.</i></p> <p>Response: Federal agencies are required by NEPA to explore and evaluate all reasonable alternatives (DEIS, pg. 15). A “PNC Alternative” as described above would propose an alternative that is not “reasonable”. Livestock grazing, logging and mining began in the project area with the start of European settlement of the Big Hole Valley in the latter part of the 19th century (DEIS, pg. 41) and continues through today and in the future (see DEIS analysis of Social and Economic Resource). It is not reasonable to consider an alternative proposing to manage for conditions that have not existed for more than a century and ignore continued human presence and commodity production in, and off, National Forest System lands in the Big Hole Valley. Analysis of the No Grazing Alternative provides analysis of baseline resource conditions in the future absence of livestock grazing in the project area while recognizing impacts from past grazing and continued human presence and commodity production in the Big Hole Valley.</p>
10-4	<p>Comment: <i>We have serious concerns with the use of Properly Functioning Condition (“PFC”) as a determining factor for Allowable Use Levels (“AULs”) in riparian areas. PFC is a subjective, qualitative assessment that at most provides clues about the status of one aspect of riparian ecosystems: physical function (National Riparian Service Team, 1997).⁷ PFC was not designed and cannot be used as a sole methodology for assessing the health of aquatic or terrestrial ecosystems. Id. PFC was never intended to replace quantitative assessments, and it is not designed to address desired condition (USFS 1997).⁸ Further, PFC has no demonstrated link to state water quality standards, and therefore cannot properly be used as a surrogate for water quality standards. The DEIS should incorporate the types of monitoring measures that actually do address compliance with water quality standards or desired watershed condition (i.e., water sampling, rooting depth, seral stage, etc.)</i></p> <p><i>PFC can be a useful tool, and acceptable for broad level surveys, such as those to characterize a large planning area. It is not designed to provide information on which to make site-specific decisions, and has no utility at all as a monitoring tool. It is not quantitative, and relies heavily on the accumulated riparian knowledge of each individual</i></p>

⁷ National Riparian Service Team. 1997. PFC (Proper Functioning Condition): What it is – What it isn't. Cooperative Riparian Restoration, Training Handout #2. July 17, 1997.

⁸ U.S. Forest Service. 1997. Using Proper Functioning Condition Riparian Assessment Protocols in Forest Plan Implementation. Memorandum from Regional Forester to Forest Supervisors, USFS Pacific Southwest Region, San Francisco, CA. October 16, 1997.

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	<p><i>user. A PFC rating arrived at by journeyman level hydrologists, soils scientists, plant ecologists and fish biologists carries far more weight than one done by summer temps and range cons, no matter how good their training. PFC definitely has a place in the wildland hydrology toolbox, but like any methodology used outside of its capabilities, it can give misleading results.</i></p> <p>Response: We agree that PFC has to be supplemented with quantitative assessments to best establish existing condition and trend metrics. This was completed for the project area; full methodology is disclosed in the hydrology analysis (DEIS, pg. 577).</p>
10-5	<p>Comment: <i>It is particularly disturbing to see riparian areas that are identified as Functioning at Risk with a static trend (FAR) grouped into the same category as those that are identified as Functioning or at Risk with an upward trend (FAR up). In fact, 21 of the 50 streams (42%) that were assessed are rated as FAR. The Forest Service must explain, in each case and with specificity, how these AUL's will move these FAR riparian areas to upward or functioning and what the specific time frame will be. In addition, the Forest Service should identify the steps that will be taken if these areas do not substantially improve in the projected time frame</i></p> <p>Response: “Functioning at risk” is still functioning and identified risks may be outside of those management actions being considered in this project. Unfortunately, recovery timeframes for specific streams can be long even with no grazing. Within the existing condition for each allotment, specific stream segment conditions are discussed but recovery timeframes are difficult to assess given the large number of variables affecting streams and recovery potential. The information disclosed in the DEIS provides the most complete assessment for existing condition, trends in condition, and mitigation, design criteria or restoration actions proposed to maintain or improve stream conditions in the project area (DEIS, pgs. 546-634).</p>
10-6	<p>Comment: <i>The Forest Service must also specifically explain how the AUL's will contribute to the recovery of each of the streams that are rated as FAR down and Non Functioning (NF). The Forest Service should provide a time frame for the recovery of these streams and identify steps that will be taken if that time frame is not met. The Forest Service must also provide any documentation to support the claim that these AUL's will lead to the recovery of NF streams and riparian areas.</i></p> <p>Response: For streams that are FAR with a downward trend and streams that are NF, more restrictive AULs may be implemented depending on which alternative is selected. Based on information we have collected on the forest and presented in the literature (Bohn 2004), we expect recovery to occur on these streams. The timeframe of recovery is difficult to predict because of the large range of variables affecting project streams (water diversions, flooding events,</p>

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	beaver activity, etc.) and the agency requirement is monitoring to assess movement toward desired conditions, not setting a specific timeframe for recovery. As long as AULs are met, we expect improvement in condition to occur.
10-7	<p>Comment: <i>Rather than rely on the subjective assessments of PFC, the Forest Service should determine AUL's on a site-specific basis by employing quantitative measurements that can be compared to the Desired Future Conditions (DFC) or better yet PNC for each allotment and pasture. For example, the Forest Service should employ the Multiple Indicators Monitoring (MIM) protocol which efficiently gathers long-term and short-term data under rigorously studied protocols that incorporate statistics to ensure high quality data results. This methodology is quantitative, repeatable, and is being used in numerous other public land management scenarios, particularly in areas that are habitat for threatened, endangered, and sensitive species such as those analyzed in the DEIS.</i></p> <p>Response: The qualitative PFC assessment is only one part of the Forest's overall analysis of stream condition. The MIM protocol is a compilation of several different protocols for assessing riparian condition and health, but does not fit the needs of all stream monitoring because it is often not comparable to other approved monitoring protocols and therefore, trend cannot be derived from historic information. Our methodology is more effective in analyzing project streams because we can utilize both qualitative and historic data sets to establish trend and propose management actions that are specific to desired conditions and maintenance or recovery of stream health.</p> <p>There are no threatened or endangered aquatic species in the project area. Interim AULs exist in the Forest Plan for westslope cutthroat trout (sensitive species) habitat as identified in the Current Management Alternative (DEIS, Chapter 2, Table 10, pg. 22). Avoidance periods, restoration actions with extended rest periods and exclosures are also considered for improvement of stream conditions and protection of sensitive aquatic species and their habitat (DEIS, Chapter 2, pg. 26; 32-57).</p>
10-8	<p>Comment: <i>The Forest Service's 55% utilization rate for upland grass forage is inherently flawed and not based on the latest scientific information in terms of maintaining or improving ecological conditions in upland rangelands. According to Holechek, et al., "Conventional wisdom has been that moderate stocking involves 50% use of forage. This guideline applies well in the southern pine forest, humid grasslands, and annual grasslands, but results in rangeland deterioration in the semi-arid grasslands, desert and coniferous forest rangelands. Here research was remarkably consistent in showing that moderate grazing involved about 35–45% use of forage (Johnson 1953, Klipple</i></p>

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	<p><i>and Costello 1960, Beetle et al. 1961, Paulsen and Ares 1962, Houston and Woodward 1966, Launchbaugh 1967, Martin and Cable 1974, Skovlin et al. 1976, Sims et al. 1976).⁹ They continue to state that, “The United States Department of Agriculture, Natural Resources Conservation Service continues to recommend 50% use of forage resources. However the research convincingly shows 40–45% use is moderate on most rangelands and 30–35% use is needed for improvement in rangeland vegetation.”¹⁰</i></p> <p><i>A series of publications from Texas A&M^{11 12 13} base proper utilization on the “take half/leave half” principle. Half of the forage produced each year is left for soil protection and future forage production. Twenty-five percent is consumed by insects, wildlife, trampling and decomposition. The remaining 25% may be allocated to livestock.</i></p> <p>Response: Upland forage utilization levels for all action alternatives are limited to less than 55% with additional limits placed on riparian forage use and other riparian features (such as bank disturbance). Please note these are limits, not desired objectives that must be met. When the first AUL (not all AULS) is met, livestock are moved to the next pasture or off the allotment. The effects of all of these standards combined is disclosed in the vegetation section of the DEIS.</p> <p>In addition, these limits are based on overall use, rather than just forage consumed by livestock. Upland forage use is limited to 55%, regardless of what type of animal consumed the forage.</p> <p>Also, research shows that biomass of forage plants as related to height is inverse and nearly exponential for most species; removal of 55% in height, would still result in up to 60% of biomass remaining for soil protection and future forage production depending on upland forage species (FS utilization wheel)</p>
10-9	<p>Comment: <i>The integrity of stream banks is the most important short-term indicator of riparian health. Unfortunately, the Forest Service has decided to manage from the principle of maximum allowable damage rather than creating standards that would actually prevent declining conditions. An allowable stream bank disturbance level of 30% will certainly not aid in the restoration of streams that are FAR and allowing up to 25 % disturbance on NF streams truly indicates that the Forest Service has no intention of making the types of decision required for real</i></p>

⁹ Holechek, J.L., H. Gomez, F. Molinar, and D. Galt. 1999. Grazing studies: what we’ve learned. Rangelands 21(2):12-16.

¹⁰ Holechek, J.L., H. Gomez, F. Molinar, and D. Galt. 1999. Grazing studies: what we’ve learned. Rangelands 21(2):12-16.

¹¹ McGinty, Allan. 2000. Reference Guide for Texas Ranchers. Agrilife Extension, Texas A&M University.

¹² White, L.D. and A. McGinty. 1997. Stocking rate decisions: Key to successful ranching. Texas A & M Res. Ext. Serv. Publ. 13-5036.

<http://texnat.tamu.edu/library/publications/stocking-rate-decisions/>

¹³ White, L.D. and T.R. Troxel. 1989. Balancing Forage Demand with Forage Supply. Agrilife Extension, Texas A&M University. Publication B-1606.

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	<p><i>recovery. The Forest Service must provide conclusive evidence that these stream bank disturbance levels will result in improving conditions.</i></p> <p><i>As with utilization, the Forest Service has decided to employ a one-size-fits-all approach rather than taking the necessary steps of identifying the appropriate level of steam bank disturbance for each stream based on channel type and streamside vegetation. According to the Caribou NF Riparian Grazing Implementation Guide,</i></p> <p><i>“It appears that inherent, undisturbed bank stability of channels functioning at full potential ranges from about 70 percent to near 100 percent, depending on the type of channel and streamside vegetation. The literature suggests that allowable disturbances may range from less than 10 percent to as much as 40 percent, depending on the type of channel and residual vegetation. Streams that contain smaller bank particle sizes (gravels, sands, silts/clays) are more sensitive to disturbance than banks containing larger materials (Rosgen 1996). Therefore, banks consisting of smaller particle sizes may not tolerate as much disturbance as banks containing larger particle sizes. Further, banks that have only a few plants with shallow root systems cannot protect banks as well as many plants with deeper and denser rooting systems. Banks having fewer plants with shallow roots may need more protection from impacts than banks containing many, deeper rooted plants. Therefore, a range of disturbances, based on channel type and residual vegetation may be appropriate.”¹⁴</i></p> <p>Response: This comment inaccurately portrays the alternatives analyzed in detail. Please refer to the alternative descriptions in Chapter 2.</p> <p>The 2009 Forest Plan includes more recent best available science/knowledge than the reference you provide and the goals, objectives and standards are based on this recent knowledge. This includes the interim AULs identified and analyzed in the Current Management Alternative.</p> <p>Furthermore, All bank alteration AULs are within the range that you identify in your reference and a range of AULs for multiple riparian components based on existing condition were considered in the Proposed Action and Alternative 4. Rest-rotation grazing systems and restoration actions with extended rest were also considered as tools for riparian grazing management. Additional rest options will be better described and considered in the FEIS.</p>

¹⁴ Caribou National Forest Riparian Grazing Implementation Guide Version 1-2, Riparian Process Paper, Leffert, R.L., Forest Hydrologist, Caribou/Targhee National Forest, 7/03/2002, Updated 12/28/2005

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10-10	<p>Comment: <i>The DEIS must also address the fact that livestock sizes, and thus forage consumption, have increased dramatically since the AUM or HM was defined. Failure to address this critical issue will lead to legal vulnerability under NEPA, APA and the False Claims Act.</i></p> <p><i>The DEIS must analyze the current and potentially available forage to satisfy the forage consumption by the number of livestock it currently permits or proposes to permit. It cannot assume that the forage capacity determined 20-40 years ago is applicable today.</i></p> <p><i>The Society for Range Management (SRM) in 1974 defined an Animal Unit “to be one mature (1000 lb.) cow or the equivalent based upon average daily forage consumption of 26 lbs. dry matter per day.”¹⁵ . SRM also defined an Animal Unit Month as “The amount of feed or forage required by an animal-unit for one month.” NRCS defined the forage demand for a 1,000 pound cow as 26 pounds of oven-dry weight or 30 pounds air-dry weight of forage per day.¹⁶ It is important to ensure that forage consumption rates by livestock are based on the size of animals present on the allotment and a reasoned estimate of their daily consumption rates. The following analysis provides some background and justifies a more current forage consumption rate for cow/calf pairs. It is BLM’s obligation to ensure this forage is accurately accounted for as this is its fiduciary duty to the American People. Undercounting forage consumption by livestock results in undercharging for that forage. This is potentially defrauding the American public under the False Claims Act.¹⁷</i></p> <p><i>The University of Nevada Agricultural Experiment Station published a report on cattle production in 1943 (Brennan and Harris, 1943)¹⁸. That report analyzed 14 years of ranch operation for eleven ranches in northeastern Nevada. At that time, a mature cow was considered one unit and a branded calf or weaner as 1/2 cow unit, for a combined total of 1.5 cow units per cow/calf pair. Bulls were considered 1.5 cow units. For the period 1938 – 1940, the average turnoff weight (when they left the range) of mature cows was 959 pounds, calves were 381 pounds and bulls were 1222 pounds. This means that in the 1930’s, a cow/calf pair was 1340 pounds. With breeding, supplements and hormones,</i></p>

¹⁵ Society for Range Management. 1974. Glossary of terms used in range management.

¹⁶ USDA. 1997. National Range and Pasture Handbook.

¹⁷ Title 18 USC Section 1001.

¹⁸ Brennan, C.A. and Fred B. Harris. 1943. Fourteen Years Cattle Production and Ranch Earning Power in Northeastern Nevada 1928 to 1941. University of Nevada Agricultural Experiment Station, Reno, Nevada.

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10-10 (cont)	<p><i>weights have increased over time, for example, Anderson et al (ca 2000) calculated a 35% increase in dressed weights per animal between 1975 and 1995.¹⁹</i></p> <p><i>USDA market statistics give the average weights of slaughter cattle for the week ending August 14, 2004 as 1251 pounds.²⁰ The estimate for the same week in</i></p> <p>Comment (cont): <i>2005 for slaughter cattle average weight was 1260 pounds. The USDA National Agricultural Statistics Service data for average live weight of cattle slaughtered in 2004 was 1242 pounds compared to 1187 pounds in 1995, or an increase of nearly 8.5% in those 10 years.²¹ The Livestock Monitor is a newsletter produced by the North Dakota State University Extension Service Livestock Marketing Information Center in cooperation with USDA State Extension Services.²² The Livestock Monitor shows for the week ending August 6, 2005, live weights of slaughter cattle averaged 1258 pounds.</i></p> <p><i>The potential weights of mature cows can be even larger than these numbers. For example, NRCS in its National Range and Pasture Handbook, referenced above, defines body condition scores. A body condition score of 6 which is described as “Good, smooth appearance throughout. Some fat deposits in brisket and over the tailhead. Ribs covered and back appears rounded.” This body condition score relates to a pregnancy percentage of 88%, which is important as a goal for cow/calf operations as dry cows are usually culled and replaced and the weight gain of calves is important for income. According to Dr. Larry W. Olson, Extension Animal Scientist at Clemson University, a medium frame cow in body condition score 6 could easily weigh 1300 – 1400 pounds.²³</i></p> <p><i>Holechek et al (2001) summarized the weaning weights of calves grazed on various types of rangelands at different stocking rates.²⁴ The data for the period since 1990 produced an average weaning weight of 430 pounds and a range of 382 – 475 pounds. Ray et al (2004) gave a weaning weight of 480 pounds for calves. Using the current market statistics for slaughter cattle at about 1250 pounds and assuming a calf weight of 300 pounds to allow for weight gain</i></p>

¹⁹ <http://agecon.uwyo.edu/RiskMgt/marketrisk/TheCattleCycle.pdf>

²⁰ http://www.ams.usda.gov/mnreports/SJ_LS712.txt

²¹ <http://www.usda.gov/nass/pubs/agr05/acro05.htm>

²² <http://www.ag.ndsu.nodak.edu/aginfo/lsmkt/monitor.htm>

²³ Email correspondence with Dr. Olson dated 8/18/05.

²⁴ Holechek, Jerry L., Rex D. Pieper and Carlton H. Herbel. 2001. Range Management: Principles and Practices, Fourth Edition. Prentice-Hall, New Jersey. 587p

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10-10(cont)	<p>during the grazing season, an estimate for the average weight of a cow/calf pair during the grazing season of 1,500 pounds seems reasonable.</p> <p>As pointed out above, the NRCS used 26 lbs/day of oven dry weight for a 1,000 pound cow and stated this was equivalent to 30 pounds per day air-dry weight. The NRCS Range and Pasture Handbook value of 30 pounds air-dry weight would be 3% of body weight for a 1,000 pound cow. Applying this to the estimate of a current weight of 1,500 pounds for a cow/calf pair, the daily forage consumption would be 45 lbs of air-dry forage per day, or for a month (30.4 days), 1368 pounds of forage per AUM.</p> <p>Forage consumption rates must be calculated based on the current weights and consumption rates of livestock in order to provide the forage needed for wildlife, plant community sustainability and watershed protection and to ensure the public trust is not violated by undercharging for the actual weights of cattle and calves grazed.</p> <p>Response: The Forest Service agrees that livestock sizes have increased since the stocking rates were established. That is why management actions and allowable use levels (DEIS on pages 24-28) were developed to comply with the Forest Plan and do not rely on animal size; when these criteria are met cattle are moved to the next pasture or removed from the allotment. Also, see Chapter 5, Appendix D and Response to 1-1 above.</p>
10-11	<p>Comment: Without a doubt, we would prefer that the Forest Service choose the “No Action” or “No grazing” Alternative. In nearly all cases, this alternative would most rapidly improve the degraded conditions on each allotment. However, there is little point in spending much time advocating for an alternative that we all know the Forest Service will never choose due to political constraints. In terms of the two viable alternatives analyzed, the Proposed Action and Alternative 4, each still falls well short of what is required to begin the serious work of restoration necessary to deal with the years of continuous and poorly managed grazing on these allotments.</p> <p>In general, and as described above, AUL's must be individually tailored to each allotment and each stream reach. Time frames should be established for progress toward the desired conditions in each area based on the potential natural community of vegetation and stream classification. That progress should be measurably defined with specific actions identified if progress is not achieved within the established time frame. Additionally, all NF and FAR down and FAR streams should be immediately excluded from livestock grazing until they meet specific recovery goals.</p> <p>Response: The Proposed Action and Alternative 4 (DEIS, Chapter 2, pgs. 23-29) describe AULs based on Properly Functioning Condition (PFC) that is implemented site specifically and with timeframes.</p> <p>Streams with a “Functioning at risk with an upward trend” or “Functioning at risk with a static trend” are still</p>

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	<p>functioning under current livestock management practices and therefor there is no basis for removing livestock. Existing condition, existing disturbance and direct, indirect, and cumulative effects (risk) to stream function are identified in the DEIS (Chapter 3, pgs. 556-623). The Forest Service disagrees with your interpretation of the analysis presented.</p>
10-12	<p>Comment: <i>The Forest Service should include in the mandatory terms and conditions for each permit a requirement to have riders present throughout the grazing season to ensure that AULs, particularly stream bank disturbance, are not exceeded. Again the Caribou NF Riparian Guide is instructional on this point. Interestingly, the example given is from the Beaverhead NF.</i></p> <p><i>“Monitoring on the Beaverhead National Forest found that channel disturbance criteria were normally met before other parameters, such as stubble height or percent utilization (Dallas 1997). For example, with only a minor exception noted in a meadow complex with a C (low gradient) stream channel, the streambank disturbance guideline was found to be the limiting factor across the entire Upper Ruby allotment. The allotment riders have become so adept at managing streambank disturbance, other parameters, such as stubble height, were discontinued. Maintaining the bank disturbance guideline resulted in stream improvement, and in some cases, significant improvement of streams throughout the allotment.”²⁵</i></p> <p><i>Unfortunately, no mention of riders occurs in the EIS despite the ample evidence of their effectiveness in preventing excessive levels of stream bank disturbance. The EIS should thoroughly analyze an alternative that includes mandatory riders.</i></p> <p>Response: Riding is a management tool that is in the best interest of the permittee to implement however, full time riders are not necessary in all situations. Terms and conditions of a grazing permit are not what are analyzed in NEPA; the permit is the authorizing document. Existing condition as it relates to desired conditions and current management are the basis for analyzing what change, if any, needs to occur to maintain or achieve desired conditions. The authorizing official (District Ranger) has the discretion to require permanent riders through the permit administration process if other management practices are deemed ineffective. Failure to mention riders in the EIS does not preclude permittees or authorizing officials from using this tool.</p> <p>Furthermore, The 2009 Forest Plan includes more recent best available science/knowledge than the reference you provide and the goals, objectives and standards are based on this recent knowledge.</p>

²⁵ Holechek, Jerry L., Rex D. Pieper and Carlton H. Herbel. 2001. Range Management: Principles and Practices, Fourth Edition. Prentice-Hall, New Jersey. 587p

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10-13	<p>Comment: <i>Seymour Allotment</i> - We oppose the addition of grazing in the Tenmile Pasture and advocate for the 75 unallocated head not to be reallocated. It simply does not make sense to add grazing pressure to a pasture with a NF stream and WCT populations.</p> <p>Response: One of the four alternatives considered and analyzed include grazing of the Tenmile pasture and addition of livestock as appropriate based on capability, suitability and existing condition as it relates to livestock management. Site specific AULs (DEIS, Chapter 2, pg. 24) are designed to provide more restrictive use for those areas in decline or not currently meeting desired conditions.</p> <p>As such, the current conditions of the Tenmile Pasture are not a result of livestock grazing as this pasture is currently unallocated, so there is no evidence that grazing this pasture would prevent the maintenance or improvement of desired resource conditions into the future.</p> <p>An avoidance period for WCT was considered in Alternative 4 to minimize direct impacts and provide management flexibility should the decision occur to graze Tenmile pasture (DEIS, Chapter 3, pg. 36). There are no streams identified as “nonfunctioning” in the Tenmile Pasture (DEIS, Chapter 3, pgs. 561-562).</p>
10-14	<p>Comment: <i>Fishtrap Allotment</i> - The decrease in Head Month Numbers (“HMs”) should correspond to a reduction in Livestock Number (“LN”). Please explain in detail why this it is appropriate to keep the same level of LN especially when current management has contributed to the conditions of at least three FAR streams within the allotment. Due to the fact that the Proposed Action (“PA”) and Alternative 4 (“A4”) do not differentiate between FAR and PFC streams in terms of AULs, the DEIS states that the changes, “would not affect management because all of the streams in the allotment were found to be functioning at risk with a static or upward trend as well and some properly functioning stretches.”</p> <p>Response: The reduction in Head Month Numbers corresponds to a change in the season of use considered (DEIS, Chapter 2, Table 18, pg. 36). AULs for the Proposed Action and Alternative 4 are based on stream condition using the PFC assessment, and use levels are differentiated into 3 classes based on stream function (DEIS, Chapter 2, pg. 24). While livestock grazing does contribute to impacts on streams, the hydrology analysis states for the Proposed Action and Alternative 4 that “overall grazing practices appear to be creating conditions that would allow the attainment of properly functioning condition” and that Alternative 4 would result in slightly better condition or more improvement than the Proposed Action (DEIS, Chapter 3, pg. 587-89). “Functioning at risk with a static trend” is still a functioning stream and current livestock management has resulted in the attainment of a “functioning” stream. Very little risk in this allotment is contributed to livestock management and livestock impacts as they relate to current condition are identified as “limited</p>

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	<p>cow impacts in most areas” for East Fork Pasture and “Some cow impacts were observed where cattle were able to access stream but damage was minimal” for West Fork Pasture (DEIS, Chapter 3, pg. 563). The Forest Service disagrees with your interpretation of the analysis presented.</p>
10-15	<p>Comment: <i>Fishtrap Allotment</i> - In addition to adjusting AULs for the FAR stream segments in this allotment, the Forest Service should analyze an alternative that identifies specific actions to recover these stream segments included permanently excluding them from livestock grazing. While in general, we support periods year long rest for this and other allotments, this will not result in riparian recovery if additional mitigation measures are not put in place to ensure that any gains made during rest are not quickly undone by the presence of livestock the following year and the associated resumption of stream bank trampling. The Caribou NF Riparian Implementation Guide is instructive on this point as well:</p> <p style="padding-left: 40px;"><i>“Platts and Rinne (1985) found that streamside grazing probably does as much or more damage through bank alteration than through changes in vegetative biomass. Further, he suggested that bank conditions do not improve during a single rest period, but rather, regrowth of vegetation tends to mask unstable reaches. He found that prolonged use of streamside vegetation not only will alter a bank but will also retard the rehabilitation of previously altered banks.”²⁶</i></p> <p>Response: The proposed action as compared to current management does include site-specific measurements based on existing stream function (DEIS, Chapter 2, pgs. 20-26). In addition, Alternative 4 proposes site specific measurements and resting the entire allotment one in three years (DEIS, Chapter 2, pg. 36). This approach provides flexibility to implement more stringent AULs should monitoring or assessment indicate a decline in condition and relax AULs if measurable improvement occurs to achieve the next stream function class.</p> <p>The 2009 Forest Plan includes more recent best available science/knowledge than the reference you provide and the goals, objectives and standards are based on this recent knowledge. This includes the interim AULs identified and analyzed in the Current Management Alternative.</p>
10-16	<p>Comment: <i>Mudd Creek Allotment</i> - The Forest Service should include an analysis of a reduced grazing alternative for the Mudd Creek allotment.</p> <p>Response: Alternative 4 includes resting the entire allotment one year in three (DEIS, Chapter 2, pg. 38).</p>

²⁶Holechek, Jerry L., Rex D. Pieper and Carlton H. Herbel. 2001. Range Management: Principles and Practices, Fourth Edition. Prentice-Hall, New Jersey. 587p

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10-17	<p>Comment: <i>Mudd Creek Allotment</i> - Additionally, A4 includes a spring development with new pipe and a new water tank. We can find no discussion in the EIS about where this development is located, what the reasoning is behind this development, what the cumulative effects for this development might be, what the costs are, etc. This information must be provided and available in the EIS.</p> <p>Response: The proposed water development for the Mudd Creek Allotment is located on the past activity map in Appendix 8 of the EIS. New developments are identified in the design features for the Proposed Action and Alternative 4 (DEIS, Chapter 2, pg. 25-26; 27-29; 31; 39) and rationale for new water developments is disclosed (DEIS; Chapter 3, pg. 577). The effects of the proposed water development are analyzed as part of the design features of the Proposed Action and Alternative 4 in each resource section (DEIS Chapter 3, pgs. 77-78; 190-192; 294-295; 305-309; 391-392; 443; 470-472; 476-477; 487-492; 577; 820). Reasons for water developments typically include protecting the spring source with fencing and providing off stream water for cattle to reduce streambank disturbance. Cost of the improvement is disclosed (DEIS, Chapter 3, pgs. 31-32).</p>
10-18	<p>Comment: <i>Mudd Creek Allotment</i> - As with the Fishtrap allotment, specific actions should be analyzed for each of the streams that are rated FAR and a recovery plan established with specified time frames and actions that will be taken if those goals are not achieved. Additionally, the Forest Service should include an alternative that permanently excludes the wilderness portion of the allotment.</p> <p>Response: The proposed action as compared to current management does include site-specific measurements based on existing stream function (DEIS, Chapter 2, pgs. 20-26). In addition, Alternative 4 proposes site specific measurements and resting the entire allotment one in three years (DEIS, Chapter 2, pg. 38). This approach provides flexibility to implement more stringent AULs should monitoring or assessment indicate a decline in condition and relax AULs if measurable improvement occurs to achieve the next stream function class.</p> <p>The 2009 Forest Plan includes more recent best available science/knowledge than the references you provide and the aquatic resource goals, objectives and standards are based on this recent knowledge (Forest Plan, Chapter 3, pgs. 13-21). Also Livestock Management Standard 1 included interim AULs identified and analyzed in the Current Management Alternative.</p> <p>All streams are considered functioning and those that are functioning at risk are not identified as heavily impacted by livestock, rather the risk is from dewatering due to diversions (DEIS, Chapter 3, pgs. 564-565).</p> <p>Grazing was occurring prior to Wilderness designation with the 1964 Wilderness Act and therefor, this use was</p>

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	allowed to continue and the existing condition suggests that livestock use of the Wilderness portion of the Mudd Creek Allotment is minimal (DEIS, Chapter 3, pg. 119). The No Grazing Alternative considers and analyzes permanent exclusion of livestock from the A-P Wilderness (DEIS, Chapter 3, 129-132).
10-19	<p>Comment: <i>Mudd Creek Allotment</i> - As with other the other allotments, the Forest Service should require the presence of riders throughout the grazing season in the mandatory terms and conditions of the permit.</p> <p>Response: See response to 10-12 above.</p>
10-20	<p>Comment: <i>Mudd Creek Allotment</i> - The Forest Service should also develop AULs for specific streams and upland areas that are consistent with the achievement of desired conditions within a specified time frame including actions that will be implemented if those goals are not met.</p> <p>Response: See response to 10-5, 10-6,10-9, 10-11 &10-18 above.</p>
10-21	<p>Comment: <i>Pintler Creek Allotment</i> - The Pintler Creek allotment is the poster child for failed grazing management in the DEIS. The following excerpts from the Range and Hydrology sections of the DEIS clearly indicate the need for drastic measures to mitigate for and restore the damage done on this allotment:</p> <p>“Based on previous allotment inspections, this allotment typically receives moderate to moderately heavy forage utilization on suitable upland areas, ... Annual heavy use typically occurs on some smaller riparian sites within the northeastern portion of the allotment. ... however, end of season compliance has been very marginal on many upland sites over the years due to mostly season-long grazing use.”</p> <p>“In a review of upland long-term monitoring transect data for sagebrush-grassland types on this allotment, it was determined that, overall, the composition of important grass species on these rangelands are thought to be below amounts expected for this habitat type.”</p> <p>“In regards to species composition on the Pintler Creek riparian site, the composition of some important sedges (e.g., beaked sedge) appear to be well below desired amounts for this habitat type. The composition of this sedge was recorded to be 2 percent in 2008.”</p> <p>“Total canopy cover for dominant riparian shrubs (i.e., willows) on the Pintler Creek monitoring site was measured to be 42 percent, which is appreciably below amounts recorded in research data.” (emphasis added).</p> <p>“On the sampled riparian habitat type, ground cover averaged 64 percent, which left approximately 36 percent as being</p>

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10-21 (cont)	<p><i>bare ground. This amount of bare ground is considered to be excessive for this riparian habitat type, and should most likely be less than 10 percent.” (emphasis added).</i></p> <p><i>“Overall, these sites are considered to be below desired rangeland health objectives for species composition, and on one transect site (S1) the composition and vigor of important forage species such as Idaho fescue appeared to be greatly diminished.”</i></p> <p><i>“Based on riparian transect data for Pintler Creek, this site is considered to be <u>not</u> meeting desired conditions for species composition, shrub cover, and ground cover. The site is in a disturbed condition due to past natural disturbance events and livestock grazing impacts. The stream channel is deeply entrenched, and there is excessive bare ground due to raw, vertical banks and stream bank trampling/damage by livestock.”</i></p> <p><i>“In regards to the sampled riparian site on Pintler Creek, existing low ground cover would suggest that this plant community is at increased risk to invasion by noxious weeds, and expansion of nonnative plants such as dandelion and Kentucky bluegrass.” “There are a couple of areas where we saw more intense grazing pressure though which include upper Pintler Creek and Lower Pintler Trib which are functioning at risk with a downward trend or non-functioning.”</i></p> <p><i>“The data for the 2011 quantitative survey showed that the stream was functioning at risk with some grazing impacts that were limited by the forested nature of the stream. Below road 1223 where the stream is in more of a meadow a qualitative survey was also completed and considerable grazing impacts were observed. The stream is overwidened and has lost connection with floodplain in places.”</i></p> <p><i>“Further upstream in the large meadow there are some significant grazing impacts and a section of non-functioning stream where cows have broken down banks and overwidened a section of stream.”</i></p> <p><i>Given the scope of the problems identified on this allotment, we would expect to see some dramatic changes to current grazing management. However, there is no proposed reduction in HMs or LN or the actual number of days livestock spend on the allotment. There is no requirement for riders to ensure that AULs are not exceeded.</i></p> <p>Response: Alternative 4 proposes a decrease in head month numbers and a change in season of use and proposes restoration actions, extended rest, and other management changes (DEIS, Chapter 3, pg. 40). Regarding riders, see response 10-12 above.</p>
10-22	<p>Comment: Pintler Creek Allotment - <i>While we are glad to see the 10 year rest for Pintlar Meadow in A4, there is no subsequent reduction in HMs indicating that grazing pressure throughout the rest of the allotment will actually increase. Additionally, it is absolutely unfathomable why the Forest Service is not proposing periods of year long rest</i></p>

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	<p><i>for this allotment. The conditions on the Pintlar allotment are far worse than most of the other allotments analyzed in the DEIS and, with the exception of Ruby Creek, yearlong rest is part of A4 for each of the others. The body of evidence overwhelmingly favors rest for the recovery of degraded vegetation, particularly in upland areas. This is borne out throughout the DEIS and is advocated in nearly every other case. The Forest Service must clearly explain and provide a legally defensible argument for why management changes to address the severe degradation of the Pintlar allotment are not included in the DEIS.</i></p> <p>Response: Allotment specific design/mitigation measures are displayed (DEIS, Chapter 2, pgs. 29-30). See direct/indirect effects discussion and comparison of alternatives (DEIS, Chapter 3, pgs. 131-132, 156, 157, 211, 298-300, 340, 429, 496, 535-536, 627, 717-718, 851-852).</p>
10-23	<p>Comment: <i>Pintlar Creek Allotment - Several statements from the hydrology section of the DEIS are particularly instructive in terms of the need for mandatory year long rest for the Pintlar Creek allotment.</i></p> <p><i>“The less grazing animals on a stream, the longer it takes to meet AUL’s and therefor (sic) the easier it is to manage and move cows when needed to protect riparian resources.”</i></p> <p><i>“Rest Periods allow the greatest recovery of riparian vegetation and in turn channel development to restore degraded stream systems. The longer and more frequently a pasture is rested the more recovery can occur although meeting AUL’s is still critical when a pasture is grazed.”</i></p> <p><i>The Forest Service should analyze an alternative for the Pintlar Allotment that includes excluding the riparian areas associated with the FAR down and NF streams until recovery goals are achieved.</i></p> <p>Response: See Response to 10-18, 10-21 & 10-22.</p>
10-24	<p>Comment: <i>Additionally, the Forest Service should analyze an alternative that includes a significant reduction in HMs and LN, requires riders to be present with livestock throughout the grazing season, and includes mandatory periods of year long rest for the entire allotment. AULs should be determined based on site specific goals for recovery of both upland and riparian areas of the allotment. Time frames for recovery should be established with clear direction for actions that will occur if those time frames are not achieved. The Forest Service should also include an alternative that completely removes the wilderness portion from the allotment.</i></p> <p><i>After having visited the Pintlar allotment during the last few days of May 2014, I can attest to the fact that the conditions of Pintlar meadow are deplorable. I strongly urge the Forest Service to eliminate the wilderness portion of the Pintlar and reduce the HMs and LNs accordingly. I also visited Pintlar trib 1 and saw the highly degraded and non functioning conditions there as well. The only acceptable plan for recovery of this area is extensive rest.</i></p>

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	Response: See Response to 10-12, 10-18, 10-21 & 10-22.
10-25	<p>Comment: <i>Mussingbrod Allotment</i> - A4 is the only even remotely acceptable grazing alternative for the Mussingbrod Allotment. Based on the description in the DEIS, the condition of the Bender Pasture is deplorable. Long term rest from livestock grazing is the only viable solution, especially given the non-compliance issues discussed in the DEIS. We are glad to see that unlike in other allotment management plans analyzed in the DEIS, the closure of this area is accompanied by a corresponding reduction in HMs. We are also glad to see the shortened season of use and year long rest for the entire allotment.</p> <p>Response: Your support of Alternative 4 will be considered during the decision-making process. The Bender Pasture is proposed for closure for 10 years because a tributary of Bender Creek is in a degraded condition, and needs to be protected from livestock in order propose restoration actions and allow for recovery.</p>
10-26	<p>Comment: <i>Mussigbrod Allotment</i> - Additionally, both the PA and A4 include a spring development with new pipe and a new water tank. We can find no discussion in the EIS about where this development is located, what the reasoning is behind this development, what the cumulative effects for this development might be, what the costs are, etc. This information must be provided and available in the EIS.</p> <p>Response: The alternative descriptions and tables describe the addition of one new spring development in the Mussigbrod Allotment in the Proposed Action and Alternative 4 (DEIS, Chapter 2, Table 21 pg. 43; 23- 29). Springs are developed for livestock water. The location of the spring development is on the maps titled North and West Big Hole AMP Project North Allotments, DEIS Proposed Action and Alternative 4 in Appendix A for the Mussigbrod Allotment. Cumulative effects are described (DEIS, Chapter 3 pgs. 303-305). Reasons for water developments typically include protecting the spring source with fencing and providing off stream water for cattle to reduce streambank disturbance. Cost of the improvement is disclosed (DEIS, Chapter 3, pgs. 31-32). Rationale for new water developments is disclosed (DEIS; Chapter 3, pg. 577). Allotment maps will be an appendix to dROD.</p>
10-27	<p>Comment: <i>Mussigbrod Allotment</i> - As with other the other allotments, the Forest Service should require the presence of riders throughout the grazing season in the mandatory terms and conditions of the permit.</p> <p>Response: See response for 10-12.</p>
10-28	Comment: <i>Mussigbrod Allotment</i> - The Forest Service should also develop AULs for specific streams and upland areas that are consistent with the achievement of desired conditions within a specified time frame including actions that will be implemented if those goals are not met.

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	<p><i>I visited the Bender trib meadow and was appalled by the conditions of the stream. I cannot imagine any other option except the minimum of 10 years rest in A4 being either responsible or legally defensible.</i></p> <p>Response: See response for 10-5, 10-6, 10-9, & 10-11.</p> <p>Bender Tributary is within a burn area and restoration actions are proposed in Alternative 4 (DEIS, Chapter 2, pg. 29-30). Furthermore, the DEIS states “The vegetation condition interpretation for Mussigbrod Creek cannot be used to represent conditions on other streams within the allotment, or even in the same pasture. There is too much variation between riparian systems, especially on those streams impacted by the 2000 Mussigbrod wildfire. For example, the riparian system on the east fork, or east tributary, of Bender Creek is in a severely entrenched condition due to natural disturbances including wildfire, beaver dam blowouts, and major spring runoff events. These conditions have been further aggravated by livestock grazing impacts, past and current” (Chapter 3, pg. 243).</p>
10-29	<p>Comment: Ruby Creek Allotment - <i>The Ruby Creek allotment is another case study in poor grazing management. Not only are there significant problems in terms of the condition of the allotment, neither the PA nor A4 propose significant changes that will lead to the recovery of these areas. Similar to the Pintlar Creek allotment, it is simply unfathomable why the Forest Service has not analyzed an alternative that includes mandatory periods of year long rest for the entire allotment as has been proposed in every other case. The only exception being rest one out of every three years for horses only on the Butler Pasture.</i></p> <p><i>The DEIS itself makes the case for why additional measures are needed to achieve measurable progress toward desired conditions on the allotment.</i></p> <p><i>For example, the DEIS states,</i></p> <p><i>“ Continued implementation of the current grazing management strategies and Forest Plan interim allowable use standards is expected to result in little improvement to current species composition on allotment upland sites, especially on the cattle portion of the allotment. The current 2-pasture partially deferred rotation grazing system is not expected to provide for sufficient grazing deferment. (emphasis added)</i></p> <p><i>“Based on upland long-term monitoring transect data for grassland habitat types on the Ruby Creek allotment, it was determined that the composition of important grass species on these rangelands are below amounts expected for this habitat type (i.e., tufted hairgrass/sedge h.t.). Specifically, the composition of important grass and sedge species such as tufted hairgrass and the various upland sedges appear to be below amounts expected for these rangelands. Of concern is the major increase (average of 18%) in Kentucky bluegrass composition, an aggressive nonnative species that typically increases with heavy grazing pressure.” (emphasis added)</i></p> <p><i>“Total shrub canopy cover for dominant willows on the Cow Creek (43%) and Big Moosehorn Creek (average of 12% for</i></p>

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10-29 (cont)	<p><i>two transects) riparian sites appear to be appreciably below average amounts recorded for similar habitat types in research data.”</i></p> <p><i>“For the sampled riparian sites, ground cover was determined to average 90 percent across all transects, which left 10 percent as being bare ground. Although the average ground cover is high for these riparian habitats, two of the four sampled sites had 15 percent and 16 percent bare ground, respectively.</i></p> <p><i>“Overall, these sites are considered to be below desired rangeland health conditions for species composition and ground cover, and are considered to be static, or are trending away from desired vegetation conditions when compared to 1980 data.” (emphasis added)</i></p> <p>Comment (cont):</p> <p><i>“...riparian vegetation monitoring reports (USDA, 2007 and 2012) have identified a need for increased cover of some important grass species such as tufted hairgrass, and reduced stream bank disturbance.”</i></p> <p><i>“The monitoring reports also recommend limiting the amount of time livestock spend in these riparian areas to improve plant vigor and stream bank stability, which would contribute to the long-term sustainability and function of these sites.</i></p> <p><i>“The size and extent of these existing weed infestations creates a high invasion risk to rangeland plant communities, and other native plant habitats, that are currently free of weeds.”</i></p> <p><i>“On sampled upland sites there was an apparent trend away from desirable species composition, and a substantial increase in nonnative plants such as Kentucky bluegrass. With removal of livestock from the allotment, this trend would be expected to reverse, and there would be a measurable increase in desirable native species over the long term.”</i></p> <p>“Implementation of proposed actions under this alternative is expected to result in little change to existing rangeland health conditions.” (emphasis added)</p> <p><i>It is very clear from the above statements as well as additional information in the Range section about the failure of the current grazing system to provide for sufficient grazing deferment, that significant changes must be made to reach desired conditions for the allotment. It is also worth noting that according to the DEIS, the upland transects have not been read since 2005. Even then, downward trend was indicated. This situation is likely significantly worse now with an increase in non-native species and bare ground.</i></p> <p>Response: See response to 10-5, 10-6, 10-9 & 10-11.</p>

Comment No.	Comment and Response
10-30	<p>Comment: Ruby Creek Allotment - With the exception of the “no grazing” alternative, the Forest Service has failed to analyze an alternative for the Ruby Creek allotment that meets Forest Plan standards and would actually lead toward the achievement of desired conditions on the allotment. The Forest Service should analyze an alternative that permanently ends horse grazing in the Butler pasture and excludes the Butler pasture from all domestic livestock grazing for a minimum of 10 years. Additional analysis should include mandatory year long rest for the entire allotment at least one out of every three years; specific AULs for the upland portions of the allotment that are trending downward with a detailed plan for achieving desired conditions; specific AULs for the riparian portions of the allotment with streams that are FAR including Butler Creek which was previously identified as NF but now is claimed to be FAR up that include a time frame for recovery to desired condition and actions that will be taken if the time frame is not achieved; and a requirement for riders to be present on the allotment throughout the grazing season.</p> <p>Statements from the hydrology section of the DEIS are particularly instructive in terms of the need for mandatory year long rest for the Ruby Creek allotment.</p> <p>“Rest Periods allow the greatest recovery of riparian vegetation and in turn channel development to restore degraded stream systems. The longer and more frequently a pasture is rested the more recovery can occur although meeting AUL’s is still critical when a pasture is grazed.”</p> <p>Visiting the Ruby Creek allotment this May was also an eye opening experience. Nearly every riparian area that was accessible to cattle and had palatable forage was heavily impacted. Butler meadow was horribly degraded and cattle were definitely a significant factor. This area should be rested from all livestock grazing until it is fully recovered. Cow Creek and its associated tributaries were also heavily impacted with significant trenching, over-widening, and loss of sinuosity. Willows were absent or heavily cropped throughout the area. The West Fork of Ruby Creek was also severely impacted by grazing. In many places the stream was disconnected from the floodplain due to significant trenching and streambank erosion. Most of the riparian area showed excessive trampling. Willows were largely absent and heavy browsing impacts were evident. This area should definitely be excluded from livestock grazing until significant recovery takes place. In general, the Ruby Creek allotment was in worse condition than any other I visited. It is very disturbing to see that the Forest Service is planning to completely abrogate it's responsibility to manage this allotment in a manner that will lead to recovery of degraded conditions.</p> <p>Response: See response to 10-5, 10-6, 10-9, 10-11, & 10-12 above. The Forest Service has an alternative that considers No Action (No Grazing) for ten years on the Ruby Creek Allotment.</p>

Comment No.	Comment and Response
10-31	<p>Comment: <i>Dry Creek Allotment</i> - As with other the other allotments, the Forest Service should require the presence of riders throughout the grazing season in the mandatory terms and conditions of the permit.</p> <p>Response: See response to 10-12.</p>
10-32	<p>Comment: <i>Dry Creek Allotment</i> - The Forest Service should also develop AULs for specific streams and upland areas that are consistent with the achievement of desired conditions within a specified time frame including actions that will be implemented if those goals are not met.</p> <p><i>Specifically, The Forest Service should also specify what actions will be taken if excessive use of Lower Dry Creek continues to be an issue. Of course, the presence of riders would make this a moot point. Additionally, the Forest Service must address how the issues of shrub canopy cover and ground cover will be addressed for Big Lake Creek and identify specific goals and time frames for recovery to desired conditions.</i></p> <p>Response: See response to 10-5, 10-6, 10-9 & 10-11.</p>
10-33	<p>Comment: <i>Twin Lakes Allotment</i> - As with the other allotments, the Forest Service should require the presence of riders throughout the grazing season in the mandatory terms and conditions of the permit.</p> <p>Response: See response to 10-12 above.</p>
10-34	<p>Comment: <i>Twin Lakes Allotment</i> - The Forest Service should also develop AULs for specific streams and upland areas that are consistent with the achievement of desired conditions within a specified time frame including actions that will be implemented if those goals are not met.</p> <p>Response: See response to 10-5, 10-6, 10-9 & 10-11.</p>
10-35	<p>Comment: <i>Twin Lakes Allotment</i> - In general, we support mandatory periods of rest. In this case the addition of rest 2 out of every 6 years for the ULBL portion of the allotment is a good start. The Forest Service should also specify what actions it will take if non-compliance issues continue on this portion of the allotment.</p> <p>Response: Thank you for your comment. Administrative process will be followed for incidents of noncompliance consistent with the current Permit Administration Handbook and Forest Supplements.</p>
10-36	<p>Comment: <i>Monument Allotment</i> - According to the DEIS, the actual use of the Monument allotment has averaged 641 HMs rather the 868 HMs that are authorized in the permit. The DEIS continues to state that most of the use has occurred only in one pasture for the past few years. Further, the DEIS states that prior to 2006, there were utilization issues on the allotment that are suspected to have occurred due to overstocking by the permittee. Based on the fact that there are still considerable issues on the</p>

Comment No.	Comment and Response
	<p><i>Monument allotment related to shrub cover, bare ground and impaired streams, the Forest Service should analyze an alternative that reduces authorized HMs and LNs to reflect actual use. Additionally, it is unclear why the Forest Service is considering rest for one in every four years rather than one in three which is standard throughout the rest of the DEIS. In this case, it seems especially important to increase the frequency of rest due to the fact that the two pasture system is not really in place on the this allotment and therefore, only one pasture is experiencing most of the impacts.</i></p> <p>Response: Actual use as described in the DEIS for the Monument Allotment is a part of the Current Management Alternative or the existing condition. The Monument Allotment has typically received mostly light to light moderate forage utilization on suitable upland and riparian areas (DEIS, Chapter 3, pgs. 258-263). The Forest Service has an alternative that considers No Action (No Grazing) for ten years on the Monument Allotment.</p> <p>Under the current deferred grazing system, Rangeland Health Indicators are generally within the desired levels, except ground cover and, for a few species, plant composition (DEIS, Chapter 3, pg. 262). Incorporation of a rest and proposed AUL's in Alternative 4 are expected to allow greater forage plant development and reproduction over the long term, result in improved plant vigor where needed and prevent the establishment and spread of invasive plants (DEIS, Chapter 3, pg. 323-324).</p>
10-37	<p>Comment: <i>Monument Allotment</i> - As with other the other allotments, the Forest Service should require the presence of riders throughout the grazing season in the mandatory terms and conditions of the permit.</p> <p>Response: See response to 10-12 above.</p>
10-38	<p>Comment: <i>Monument Allotment</i> - The Forest Service should also develop AULs for specific streams and upland areas that are consistent with the achievement of desired conditions within a specified time frame including actions that will be implemented if those goals are not met.</p> <p>Response: See response to 10-5, 10-6, 10-9 & 10-11.</p>
10-39	<p>Comment: <i>Pioneer Allotment</i> - As with the Monument allotment, it is unclear why the Forest Service is only considering rest one in every four years rather than one in every three. It is also not stated in the DEIS if the current deferred grazing system is functioning properly. The DEIS should provide more details about the current grazing system.</p> <p>Response: See response to 10-36 above and the Existing Condition section of the DEIS for the Monument Allotment (DEIS, Chapter 3, pgs. 258-263).</p>
10-40	<p>Comment: <i>Pioneer Allotment</i> - As with other the other allotments, the Forest Service should require the presence of</p>

Comment No.	Comment and Response
	<p><i>riders throughout the grazing season in the mandatory terms and conditions of the permit.</i></p> <p>Response: See response to 10-12 above.</p>
10-41	<p>Comment: <i>Pioneer Allotment</i> - The Forest Service should also develop AULs for specific streams and upland areas that are consistent with the achievement of desired conditions within a specified time frame including actions that will be implemented if those goals are not met.</p> <p>Response: See response to 10-5, 10-6, 10-9 & 10-11.</p>
10-42	<p>Comment: <i>Saginaw Allotment</i> - The Forest Service's plan for management of the Saginaw allotment is a case study in wishful thinking. It is far from sufficient and requires a complete re-evaluation. Nearly all of the streams in this allotment are FAR, FAR down or NF due mainly to livestock impacts. There are significant issues with species composition, shrub cover and bare ground. For example, the DEIS states,</p> <p style="padding-left: 40px;">“(i)n regards to ground cover, monitoring reports identified a need to reduce the amount of bare ground through reduced livestock trampling damage to stream banks. This conclusion can be extrapolated to include other similar riparian sites within the allotment boundary. Currently, some riparian areas within the Saginaw allotment are not meeting desired rangeland health conditions for ground cover, and, as a result, are susceptible to erosion events and invasion by noxious weeds (personal observation by Kevin Greenwood).”</p> <p>Response: The Forest Service has considered a reasonable range of alternatives including an alternative that considers No Action (No Grazing) for ten years on the Saginaw Allotment. The Forest Service disagrees with your interpretation of the analysis as the majority of the 11 streams with assessments ARE NOT in a downward trend or nonfunctioning (DEIS, Chapter 3, pg. 560-561; 573-574). See response to 10-5, 10-6, 10-9 & 10-11.</p>
10-43	<p>Comment: <i>Saginaw Allotment</i> - Furthermore, it is very clear that the permittee cannot be relied upon to even keep to the interim standards let alone be counted upon to ensure compliance with more restrictive AULs as would be imposed by the PA and A4. The DEIS states, “(t)he Saginaw allotment has been grazed in compliance with Forest Plan standards seven out of the last 10 years (2003-2012), but marginal compliance was noted for many of the years that grazing standards had been met.”</p> <p>Response: See responses 10-5, 10-6, 10-9, & 10-11. Administrative process will be followed for incidents of noncompliance consistent with the current Permit Administration Handbook and Forest Supplements.</p>
10-44	<p>Comment: <i>Saginaw Allotment</i> - It is also clear from the analysis that the current rest/rotation grazing system is not sufficient if the goal is to actually ever achieve desired conditions on this allotment. In fact, it is questionable based on the analysis is grazing can be managed effectively in any of the riparian areas within this allotment. The</p>

Comment No.	Comment and Response
	<p><i>hydrology analysis repeatedly makes this point clear with statements such as, “(a)ll of the streams in this pasture are characterized by stringer meadows which make management especially difficult by concentrating grazing pressure on riparian bottoms.” In essence, the Forest Service is admitting that there is no solution for the degradation that has occurred because it is simply not possible to manage grazing in these areas in a way that will protect resources. This is especially important as much of the allotment is identified in the Forest Plan as restoration watersheds.</i></p> <p>Response: See responses for 10-5, 10-6, 10-9 & 10-11. See the Existing Condition Section for the Saginaw Allotment (Chapter 3, pgs. 268- 274). For sampled riparian sites, overall they are considered to be meeting desired rangeland health conditions for species composition, shrub cover, and noxious weeds. The Forest Service has considered a reasonable range of alternatives including an alternative that considers No Action (No Grazing) for ten years on the Saginaw Allotment. Several of the streams in this allotment are considered Restoration Key Watersheds, which indicate a need for watershed assessment and restoration actions (DEIS, Chapter 3, pgs. 560-561; Forest Plan, Chapter 3 pgs.13; 16-18; 20). Until this occurs, current management actions should maintain or improve current riparian condition.</p>
10-45	<p>Comment: <i>Saginaw Allotment</i> - Rather than taking it's responsibility to improve conditions on this allotment seriously, the Forest Service is recommending changes that have very little chance of actual improving conditions in a reasonable amount of time if at all. If any allotment within the planning area should require allotment wide year long rest, Saginaw should be at the top of the list. Additionally, pasture 4 should also be considered for a minimum of 10 years rest. Any continued grazing in this pasture is simply too much, especially if it will occur annually.</p> <p>Response: The Forest Service has considered a reasonable range of alternatives including an alternative that considers No Action (No Grazing) for ten years on the Saginaw Allotment and a rest-rotation grazing system that rests one pasture out of four annually. Several of the streams in this allotment are considered Restoration Key Watersheds, which indicate a need for watershed assessment and restoration actions (DEIS, Chapter 3, pgs. 560-561; Forest Plan, Chapter 3 pgs.13; 16-18; 20). Until this occurs, current management actions should maintain or improve current riparian condition.</p>
10-46	<p>Comment: <i>Saginaw Allotment</i> - Additionally, the Forest Service must go beyond simple adjustments in AULs for the FAR, FAR down, and NF streams in this allotment. Based on the management constraints discussed above, it is clear that all of these areas require individual management plans specific to the characteristics of each stream with very clearly defined goals for achieving desired conditions within a specified amount of time. Anything less than a complete cessation of grazing if this schedule is not adhered to is unacceptable.</p> <p>Response: See response 10-5, 10-6, 10-9 & 10-11. The Forest Service has an alternative that considers No Action</p>

Comment No.	Comment and Response
	(No Grazing) for ten years on the Saginaw Allotment.
10-47	<p>Comment: <i>Saginaw Allotment</i> - Furthermore, it is essential that this allotment include mandatory terms and conditions that require the presence of rider throughout the grazing season. Both the compliance issues and the terrain issues identified in the DEIS make it clear that this is the only possible solution for the enormous problems associated with this allotment.</p> <p>Response: See response to 10-12 above. Administrative process will be followed for incidents of noncompliance consistent with the current Permit Administration Handbook and Forest Supplements.</p>
10-48	<p>Comment: While the DEIS does identify what range infrastructure developments are present on each allotment, the DEIS fails to identify the specific locations of these items in its analysis. Additionally, there is no information in the DEIS about the condition of the developments, whether they are effectively serving their intended purpose, and if the permittees have been satisfactorily maintaining the developments. The Forest Service should provide all of this information in the DEIS. The last point is particularly important as the record of the permittee in terms of maintaining developments such as water tanks and fencing has a lot to do with whether the permittee can be reliably counted on to follow other terms and conditions of the permit.</p> <p>Response: See response to 10-47 above. Range improvements are discussed (DEIS, Chapter 2, pgs. 24-30). Maps are available (DEIS, Appendix A1, Alternative Maps).</p>
10-49	<p>Comment: It is very disappointing to see the Forest Service significantly regressing in terms of quantitative measurements of streams in the project area. The decision to basically abandon quantitative surveys and instead rely on ocular qualitative assessments demonstrates a lack of accountability as these estimates are neither repeatable or objective. Thus the public has no way of really knowing what is happening on a particular stream over time and has not data to compare conditions to reference data.</p> <p>While we suspect that is largely a function of budget constraints, it is nevertheless a disturbing trend. This problem is further exacerbated by the high rate of turnover for personnel that conduct these qualitative assessments and therefore no consistency to establish trend. This point is extremely important due to the fact that the PFC call for each stream will be the only factor that guides management through AULs. This problem, as discussed about is compounded by the inherent inconsistency of the qualitative assessments over time.</p> <p>Response: The Interim Livestock Grazing Standards and Allowable Use Levels (AULs) (Forest Plan Ch. 3, pg. 25 and 26) would apply except where otherwise noted. The Proposed Action and Alternative 4 consider site specific AULs based on stream condition (PFC assessment) but this is not the only metric used to determine AULs.</p> <p>We agree that PFC has to be supplemented with quantitative assessments to best establish existing condition and trend metrics. This was completed for the project area and full methodology for this analysis was provided (DEIS, Chapter</p>

Comment No.	Comment and Response
	<p>3, page 577). Quantitative data is also considered when available to establish trend in vegetation, soil, hydrologic function, etc.</p> <p>The Permit Administration Handbook provides guidance for changing management if future monitoring provides support due to declining trend or timeframes for improvement not being met (FSH 2209.13, Chapter 10, Section 16.14, pg. 35).</p>
10-50	<p>Comment: <i>Additionally, the hydrology analysis in the DEIS are severely lacking in several aspects. The DEIS should provide the expected Rosgen classification for each stream and the current classification. The provided maps are nearly useless to the public in terms of being able visit the same sites and see conditions first hand. Maps layers should include the Forest Service topos and should identify the coordinates of the survey points.</i></p> <p>Response: More specific information regarding inventory and assessment data and locations are available in the project record. All data was collected spatially and new surveys were monumented so visiting the same sites is possible.</p>
10-51	<p>Comment: <i>The DEIS is very instructive on one particular point which is contained in the aquatics section but it relevant in terms vegetation, soils, hydrology, etc.</i></p> <p><i>“Even though these species vary regarding their preferred aquatic habitats they are similarly affected by how livestock management influences “how fast” PFC is attained. The faster and more fully this occurs, the greater the benefits for each of these species. This tendency is also applicable to all other desired aquatic species on the BDNF.”</i></p> <p><i>This is exactly why it is essential for the Forest Service to set specific time frames for the recovery of all riparian and upland habitats within the project area that are not PFC and are not meeting desired conditions including specific actions that will be taken if those time frame are not achieved. It is unfortunate that the Forest Service has decided to apply the one-size-fits-all approach of AULs based on qualitative assessments of PFC rather than take the time to develop systematic programs to recover degraded habitat.</i></p> <p>Response: See response to 10-5, 10-6, 10-9 & 10-11. The significance of trends and recovery rates has been considered and is displayed in the analysis of effects, within the FEIS. The purpose and need for this project is to “Update grazing management and infrastructure on eleven domestic livestock grazing allotments (Seymour, Fishtrap, Mudd Creek, Pintler Creek, Mussigbrod, Ruby Creek, Dry Creek, Twin Lakes, Monument, Pioneer, and Saginaw) to comply with applicable Forest Plan direction.”</p>
10-52	<p>Comment: <i>The DEIS is largely silent on the subject of monitoring. The DEIS states that for each allotment, there will be annual compliance monitoring and long term rangeland monitoring. However, no specifics are given for each allotment. In terms of annual compliance monitoring, it is necessary for the public to know the Forest Service personnel will be actively</i></p>

Comment No.	Comment and Response
	<p><i>checking to make sure that AULs are not exceeded during the grazing season. This is especially important for areas where the new AULs are the only design feature that is claimed will have a beneficial impact on degraded habitat and help recover upland and riparian habitats that are not PFC. It is simply not good enough to learn after the fact that the permittee did not monitor AULs closely enough and move the cattle when required. This is a relevant factor that must be analyzed because it is clear from the reports contained in the DEIS that in most cases the permittees cannot be trusted to comply. In fact, many of the recovery goals outlined in the DEIS explicitly state that recovery is entirely dependent on the permittees ability to recognize when AULs are met or exceeded. This factor also furthers the arguments that riders that are instructed by Forest Service personnel on how to measure AULs should be included in the mandatory terms and conditions of each permit. At the very least, the Forest Service should increase the frequency of compliance monitoring in the first several years to make sure that the new AULs are being adhered to and are well understood by the permittees.</i></p> <p>Response: See response to 10-5, 10-6, 10-9, 10-11 & 10-12. Grazing outside of prescriptions as described in the Alternatives in Chapter 2 of the DEIS is a compliance issue. Administrative process will be followed for incidents of noncompliance consistent with the current Permit Administration Handbook and Forest Supplements.</p>
10-53	<p>Comment: <i>Unspecified long term monitoring is simply unacceptable. The Forest Service should identify exactly what will be monitored and when. Additionally, the Forest Service should establish specific recovery goals for each FAR, FAR down and NF stream, riparian or upland area and explain what actions will be taken if monitoring does not show significant improvement consistent with the established time frame and recovery goals.</i></p> <p>Response: Our monitoring is completed at the forest level with the return interval of approximately 5 years. Annual compliance monitoring will be completed by range staff as it relates to AULs identified in the decision.</p>
10-54	<p>Comment: <i>Please provide the following documents:</i></p> <ol style="list-style-type: none"> <i>1. All active grazing permits issued by the Forest Service for the allotments analyzed in the DEIS. (that is, the permits existing prior to the current NEPA process that seeks to re-issue same).</i> <i>2. Any documentation (e.g., monitoring, suitability/capability/operability analysis, photos, etc.) and all internal communications or communications between Forest Service employees and other agencies or permittees, whether in the form of memoranda, electronic mail, meeting minutes, handwritten notes, telephone logs, or directives, related to existing conditions or potential impacts from grazing on the allotments/permits referenced in response to paragraph 1, supra, including but not limited to all annual operating instructions, documentation of trespassing livestock, notice of permit violations, and monitoring results that are relevant to the active permit(s).</i> <i>3. Any Biological Assessments, Biological Opinions or Evaluations conducted by the U.S. Fish and Wildlife Service</i>

Comment No.	Comment and Response
	<p><i>related to species that occur or have potential habitat with the project area.</i></p> <p>Response: This information is available in the project record or Range Files at the Wisdom and Wise River Ranger District Offices.</p>

Letter No. 11 – Foster Land & Cattle

Comment No.	Comment and Response
<p>11-1</p>	<p>Comment: <i>We are requesting that our grazing plan for the Dry Creek Allotment remain the same yearly grazing rotation for the coming year for the following reasons.</i></p> <ol style="list-style-type: none"> <i>1. Because of cross fencing the allotment and the future development of a new spring to hold the cows on the upper side.</i> <i>2. Moving our entry date back.</i> <i>3. It will provide bettr [sic] salt and range rider placement of the cattle on the allotment.</i> <i>4. The alarming rate of dying trees is rapidly increasing the amount of sun to soil contact which is growing more grass.</i> <i>5. The use of cattle to harvest the forage will help control the forest fire danger.</i> <p><i>We believe the allotment is in better shape today than it was 4 years ago and is improving every year.</i></p> <p>Response: Your support of the Current Grazing Alternative will be considered during the decision-making process.</p>

Letter No. 12 – Joe Johnson

Comment No.	Comment and Response
12-1	<p>Comment: <i>Twin Lakes Allotment</i> – I am pleased how the Forest Service and we have maintained a good management plan on our allotment. That being said I feel that it should stay as it is. Therefore, I am in favor of Alternative 2 (Current Management Alternative).</p> <p>Response: Your support of the Current Grazing Alternative will be considered during the decision-making process.</p>

Appendix F- Consultation Summary Sheet For Programmatic Assessment

Administrative Unit: Beaverhead-Deerlodge NF

Contact: Jenna Roose *Project Biologist* Reviewed by: Art Rohrbacher: *Forest Biologist*

Date: 8/13/2015

Project Name and Description	Species	Effects of Action	Cumulative Effects (ESA)	How Does the Project Meet Screening Criteria?	Determination of Effects
<p>North West Big Hole Allotment Management Plan</p> <p>Description: See Below</p>	<p>Grizzly Bear</p>	<p><i>Not all grizzly bears that come in contact with cattle make kills; however, conflicts between livestock and grizzly bears can and do occur, which can result in management actions. These actions include hazing and harassment, relocation, or euthanization, a direct impact to the species.</i></p> <p><i>All allotments under this action include a grazing system that includes rest for certain pastures each year and additional rest than current management. Reducing the area that is grazed by livestock in this allotment may reduce the potential for future grizzly bear/livestock conflicts in this allotment when compared to not including rest (a time when livestock is not in certain areas). Presence of livestock in these allotments exposes grizzly bears to an unnatural food source and modifies the habitat that is available to them in the analysis area. Direct impacts to grizzly bears could occur if management actions need to be implemented against nuisance or habituated bears. The likelihood of this is low (discountable effects) due to the extensive history of cattle in this allotment with no history of bear depredation and grizzly bears are not known in the action area.</i></p>	<p>Future actions in the analysis area include activity associated with private property such as recreation, livestock grazing, ranching activities, firewood cutting and hunting. Because grizzly bears are not known in this area, cumulative effects from these actions are unlikely</p>	<p>Part 1 of the screens has been met by:</p> <ol style="list-style-type: none"> 1. The area is in compliance with access management direction. 2. The area is under a food storage order 3. The project does not involve seeding or planting of grasses, forbs or shrubs that would attract bears into areas where increased mortality risk or interaction between bears and people is likely. <p>Part 2 of the screens has been met by:</p> <ul style="list-style-type: none"> • Range – Infrastructure Development: Project will occur outside of the Spring Period (April 1-June 1) or completed in less than 1 day in riparian areas; project does not result in an increase in user type; motorized vehicle use occurs on existing open roads or if on restricted roads, use does not exceed admin use levels (6 trips per week or 30 day window). • Range – Grazing: Maintains or reduces existing livestock grazing or changes livestock and no history of depredation or control actions • Watershed & Habitat restoration – same as infrastructure and camping limit • Mechanical – Activity occurs outside of spring period and within 500 meters of an open or restricted road 	<ul style="list-style-type: none"> • NLAA

Administrative Unit: Beaverhead-Deerlodge NF
Contact: Jenna Roose **Project Biologist** Reviewed by: Art Rohrbacher: **Forest Biologist**
Date: 8/13/2015

Project Name and Description	Species	Effects of Action	Cumulative Effects (ESA)	How Does the Project Meet Screening Criteria?	Determination of Effects
	Canada Lynx	<p>The NRLMD FEIS details that direction found in the Inland Native Fish Strategy (INFISH) includes requirements for maintaining and limiting livestock use in riparian areas. The direction generally provides enough direction to manage grazing so it does not adversely impact lynx habitat. Little change would be needed to meet the standards and guidelines as proposed in the NRLMD (NRLMD FEIS 2007 Volume 1, p. 227). Many BDNF Forest Plan Aquatic Goals, Objective and Standards incorporate INFISH Direction. Compliance with these standards can be found in the Aquatics report. Listed below are the NRLMD Objectives and Guidelines pertaining to Livestock Management activities (NRLMD ROD 2007). These objectives and guidelines are intended to provide direction to manage grazing so it does not adversely impact lynx habitat.</p> <p>The proposed action would maintain or improve trend in species composition on upland sites and maintain or improve existing conditions on riparian sites. Improving or maintaining species composition and shrub cover would maintain and slightly improve available lynx foraging habitat and improve cover in valuable riparian travel corridors in the allotment which would benefit transient lynx. This effect is expected to be beneficial however small as lynx are not known to occupy the BDNF or the project area.</p>	<p>Future actions in the analysis area include activity associated with private property such as recreation, livestock grazing, ranching activities, firewood cutting and hunting. Because lynx are not known in this area and effects are not expected, cumulative effects from these actions are unlikely.</p>	<p>Part 1 of the screens has been met by:</p> <ul style="list-style-type: none"> • Lynx are listed as May be Present • Project is an LAU • Project is in mapped lynx habitat • Project is not a vegetation management project <p>Part 2 of the screens has been met by:</p> <ul style="list-style-type: none"> • Range – Meets NRLMD GRAZG1, G2, G3 and G4 • Watershed & Habitat Restoration - NRLMD standards and guidelines are met within the respective LAU. 	<ul style="list-style-type: none"> • NLAA

Administrative Unit: Beaverhead-Deerlodge NF Contact: Jenna Roose Project Biologist Reviewed by: Art Rohrbacher: Forest Biologist Date: 8/13/2015					
Project Name and Description	Species	Effects of Action	Cumulative Effects (ESA)	How Does the Project Meet Screening Criteria?	Determination of Effects
	Canada Lynx Critical Habitat	None, no critical habitat on the BDNF	None, no critical habitat on the BDNF	None, no critical habitat on the BDNF	NE

Mitigation:

Grizzly Bear - Infrastructure Development and watershed restoration activities:

- **Project will occur outside of the Spring Period (April 1-June 1) or completed in less than 1 day in riparian areas; project does not result in an increase in user type; motorized vehicle use occurs on existing open roads or if on restricted roads, use does not exceed admin use levels (6 trips per week or 30 day window).**
- **Day use only or camping of less than 20 individuals and less than 5 days in the analysis area.**
- **Mechanical – Activity occurs outside of spring period and within 500 meters of an open or restricted road**

Additional design criteria are below.

Description of Proposed Action and purpose and need:

The purpose of the North & West Big Hole AMPs Project on the Wisdom & Wise River Ranger Districts of the Beaverhead-Deerlodge National Forest in Beaverhead and Deer Lodge counties, Montana is to update grazing management and infrastructure on eleven domestic livestock grazing allotments (Seymour, Fishtrap, Mudd Creek, Pintler Creek, Mussigbrod, Ruby Creek, Dry Creek, Twin Lakes, Monument, Pioneer, and Saginaw) to comply with the applicable 2009 Beaverhead-Deerlodge Land and Resource Management Plan (Forest Plan) direction.

Seymour Allotment

The selected alternative for Seymour Allotment is Alternative 4 with modifications.

The selected alternative will:

- Maintain 3 permittees and nine pastures while following the management agreed in the 2011 CLGMA;
- Grazing use in head months is not to exceed 297 on National Forest System lands;
- 323 cow/calf pairs, with a season of use 6/16-10/5 not to exceed 52 days on NFS lands;
- Implement a rest-rotation grazing system consistent with the 2011 CLGMA;
- Implement Annual Use Levels in a site specific manner, based on PFC rating and trend (FEIS, Table 4);
- No change in miles of fence maintained by permittees;
- Maintain one existing water development and existing miles of pipe;
- Maintain existing exclosures: one campground and one western toad breeding exclosure.

Modification to selected alternative:

- Maintain Tenmile pasture as part of the allotment, utilizing it as a reserve pasture to be used if rest is necessary elsewhere on the allotment to meet other projects' resource objectives;
- Maintain avoidance period for westslope cutthroat trout when utilizing Tenmile pasture for other resource benefits.

Fisthtrap Allotment

The selected alternative for Fisthtrap Allotment is the Proposed Action with modifications.

The selected alternative will:

- Maintain 2 permittees and two pastures within the allotment;
- Grazing use in head months is not to exceed 460 on National Forest System lands;
- 152 cow/calf pairs, with a season of use 06/16-09/15;
- Implement a deferred-rotation grazing system;

- Implement Annual Use Levels in a site specific manner, based on PFC rating and trend;
- No change in miles of fence maintained by permittees.

Modification to selected alternative:

- Incorporate periodic rest in the allotment at an appropriate temporal and spatial scale necessary to address future resource concerns. This includes, but is not limited to, rest of a riparian area, a pasture, or in extreme cases (i.e. wildfire, drought, etc.), the entire allotment. Periodic rest could also be implemented as an avoidance period in the event of threatened, endangered or sensitive fish species establishment or reintroduction into stream systems.

Mudd Creek Allotment

The selected alternative for Mudd Creek Allotment is the Proposed Action with modifications.

The selected alternative will:

- Maintain 1 permittee and one pasture;
- Grazing use in head months is not to exceed 414 on National Forest System lands;
- 137 cow/calf pairs, with a season of use 06/16-09/15;
- Implement a deferred grazing system, where timing of allotment entry changes;
- Implement Annual Use Levels in a site specific manner, based on PFC rating and trend (FEIS, Table 4);
- No change in miles of fence maintained by permittee;
- Maintain one existing water development and existing miles of pipe;
- Construct one new water development using 0.1 mile of new pipe and fencing the spring;
- Maintain existing exclosure.

Modification to selected alternative:

- Incorporate periodic rest in the allotment at an appropriate temporal and spatial scale necessary to address future resource concerns. This includes, but is not limited to, rest of a riparian area, a pasture, or in extreme cases (i.e. wildfire, drought, etc.), the entire allotment.

Pintler Creek Allotment

The selected alternative for Pintler Creek Allotment is Alternative 4 in whole, no modifications.

The selected alternative will:

- Maintain 1 permittee and one pasture;
- Grazing use in head months is not to exceed 408 on National Forest System lands; 250 cow/calf pairs, with a season of use 06/16-09/30 not to exceed 49 days on NFS lands;
- Implement a deferred-rotation grazing system, incorporating periodic rest as needed across the allotment;
- Implement restoration actions in Pintler Meadow and extended rest period to remove potential impacts from livestock grazing to streambanks. Pintler Meadows would be rested from livestock grazing for 10 years or until desired conditions or resource objectives are met;
- Livestock entry would be deferred every other year until approximately August 1 and a designated “Special Area” in Section 18 would be grazed once every 3 years up to 20 head months or 14 days with variable entry dates.
- Implement Annual Use Levels in a site specific manner, based on PFC rating and trend (FEIS, Table 4);
- Construction and maintenance of 0.3 miles of fence new fence for allotment management;
- Maintain three existing water development and existing miles of pipe;
- Construct one new water development with up to 0.1 mile of new pipe and a spring protection fence;
- Maintain existing exclosures; one campground and two permanent exclosures.

Mussigbrod Allotment

The selected alternative for the Mussigbrod Allotment is the Proposed Action with modifications.

The selected alternative will:

- Maintain 1 permittee and two pastures with BLM as partners in management;
- Grazing use in head months is not to exceed 325;
- 165 cow/calf pairs, with a season of use 07/01-09/30 not to exceed 59 days;
- Implement a rest-rotation grazing system;

- Implement Annual Use Levels in a site specific manner, based on PFC rating and trend (FEIS, Table 4);
- Construction of 1.1 miles of new fence maintained by permittee;
- Maintain 12.7 miles of existing fence;
- Maintain five existing water development and 0.5 existing miles of pipe;
- Construct one new water development with up to 0.1 mile new pipe and a spring protection fence;
- Convert two temporary exclosures to permanent; two exclosures for allotment management

Modification to selected alternative:

- Implement restoration actions in Bender exclosure and extended rest period to remove potential impacts from livestock grazing to streambanks. Bender exclosure would be rested from livestock grazing for 10 years or until desired conditions or resource objectives are met;

Ruby Creek Allotment- Horse

The selected alternative for the Ruby Creek Allotment horse portion is Alternative 4 in whole, no modifications.

The selected alternative will:

- Maintain 1 permittee and 1 pasture for horse use;
- Grazing use in head months is not to exceed 72;
- 28 horses, with a season of use 07/01-09/15;
- Implement a rest-rotation grazing system: resting Butler Pasture one in three years;
- Implement Annual Use Levels in a site specific manner, based on PFC rating and trend (FEIS, Table 4);
- No change in miles of fence maintained by permittee;
- Maintain one existing water development and existing miles of pipe.

Ruby Creek Allotment- Cattle

The selected alternative for Ruby Creek Allotment cattle portion is Alternative 4 in whole, no modifications.

The selected alternative will:

- Maintain 1 permittee and three pastures for cattle;
- Grazing use in head months is not to exceed 613;
- 283 cow/calf pairs, with a season of use 07/01-09/30;
- Implement a deferred-rotation grazing system with periodic rest incorporated;
- Entry into Cow Creek Pasture deferred until August 1 every other year;
- Implement Annual Use Levels in a site specific manner, based on PFC rating and trend (FEIS, Table 4);
- Construct and maintain 0.1 miles of fence in Cow Creek Pasture;
- Maintain four existing exclosures;
- Construct three hardened crossings.

Dry Creek Allotment

The selected alternative for Dry Creek Allotment is the Proposed Action in whole, no modifications.

The selected alternative will:

- Maintain 1 permittee and two pastures comanaged with BLM;
- Grazing use in head months is not to exceed 222;
- 150 cow/calf pairs, with a season of use 08/10-09/23;
- Implement a rest-rotation grazing system;
- Implement Annual Use Levels in a site specific manner, based on PFC rating and trend;
- No change in miles of fence maintained by permittees;
- Maintain one existing water development and existing miles of pipe;
- Maintain existing exclosure: one campground.

Twin Lakes Allotment

The selected alternative for both portions of Twin Lakes Allotment is the Proposed Action in whole, no modifications.

The selected alternative will:

- Maintain 2 permittees and four pastures;
- Grazing use in head months is not to exceed 249 for Upper & Lower Big Lake and 360 for Upper & Lower Little Lake;
- 166 cow/calf pairs for Upper & Lower Big Lake, with a season of use 07/15-09/12 not to exceed 45 days on NFS lands;
- 174 cow/calf pairs for Upper & Lower Little Lake with a season of use 07/10-09/10;
- Implement a rest-rotation grazing system for both permits;
- Implement Annual Use Levels in a site specific manner, based on PFC rating and trend;
- No change in miles of fence maintained by permittees.

Monument Allotment

The selected alternative for Monument Allotment is the Proposed Action with modifications.

The selected alternative will:

- Maintain 1 permittee and two pastures;
- Grazing use in head months is not to exceed 868 on National Forest System lands;
- 300 cow/calf pairs, with a season of 07/20-10/15;
- Implement a deferred-rotation grazing system;
- Implement Annual Use Levels in a site specific manner, based on PFC rating and trend;
- No change in miles of fence maintained by permittees;
- Maintain existing exclosure: one campground.

Modification to selected alternative:

- Incorporate periodic rest in the allotment at an appropriate temporal and spatial scale necessary to address future resource concerns. This includes, but is not limited to, rest of a riparian area, a pasture, or in extreme cases (i.e. wildfire, drought, etc.), the entire allotment.

Pioneer Allotment

The selected alternative for Pioneer Allotment is the Proposed Action with modifications.

The selected alternative will:

- Maintain 1 permittee and three pastures;
- Grazing use in head months is not to exceed 542 on National Forest System lands;
- 250 cow/calf pairs, with a season of use 07/07-09/10;
- Implement a deferred-rotation grazing system;
- Implement Annual Use Levels in a site specific manner, based on PFC rating and trend;
- No change in miles of fence maintained by permittees;
- Maintain existing exclosure: one campground.

Modification to selected alternative:

- Incorporate periodic rest in the allotment at an appropriate temporal and spatial scale necessary to address future resource concerns. This includes, but is not limited to, rest of a riparian area, a pasture, or in extreme cases (i.e. wildfire, drought, etc.), the entire allotment.

Saginaw Allotment

The selected alternative for Saginaw Allotment is the Proposed Action with modifications.

The selected alternative will:

- Maintain 2 permittees and four pastures;
- Grazing use in head months is not to exceed 690;
- 300cow/calf pairs, with a season of use 07/10-09/17;
- Implement a rest-rotation grazing system;

- Implement Annual Use Levels in a site specific manner, based on PFC rating and trend;
- No change in miles of fence maintained by permittees;
- Maintain six existing water developments and 0.6 existing miles of pipe.

Modification to selected alternative:

- Implement avoidance period for westslope cutthroat trout in Pasture 4.

Mitigations and Monitoring

Allotments

Range

As identified in 36 CFR 222.4, permittees would have one year to comply with proposed modifications.

All existing structural improvements would continue to be maintained at a level that serves their intended purposes. This could include but is not limited to:

Cleaning and splicing pipeline to maintain water at troughs;

Maintaining troughs, support structures and all associated plumbing;

Maintain overflow and shutoff valves;

Maintain wildlife escape ramps in all troughs;

Maintain or reconstruct fences to specifications.

When any one of the Allowable Use Level metrics is reached, livestock would be moved.

Upland Allowable Use Levels (AULs) are as follows for all allotments:

<i>Upland Parameters</i>	<i>Deferred or Rest Rotation</i>	<i>Area and Key Species</i>
<i>Upland Range Utilization</i>	<i>≤ 55% of forage utilized on suitable range on 85% of the area. ≤ 65% utilization on remaining 15%.</i>	<i>Suitable range, Idaho fescue, bluebunch wheatgrass, rough fescue, or other species deemed appropriate</i>

Invasive Plants

All heavy equipment for use in restoration activities or structural improvement implementation or reconstruction will have an undercarriage wash and inspection prior to entering National Forest System Lands to reduce the spread of invasive plants.

All livestock feed brought onto National Forest System Lands will be certified noxious weed-free.

Continued monitoring and treatment will occur as long as necessary to ensure that existing infestations do not expand and new infestations are identified and treated.

Soils

The date livestock are authorized to enter the allotment could be adjusted to assure vegetative development and soil conditions are adequate prior to livestock grazing. Actual on or off dates would continue to be adjusted on an annual basis to provide for range readiness or to mitigate prior season grazing effects, current season forage production, weather, or other conditions when necessary.

Hydrology & Aquatics

Allowable use levels for grazing in riparian areas were developed based on current stream condition (Proper Functioning Condition). These AULs will be used for all riparian area grazing on the 11 allotments in this decision. Additional mitigations for hydrologic and aquatic species concerns are implemented on a site specific basis below.

<i>Riparian Parameter</i>	<i>PFC or F-A-R²⁷ with a static or upward trend</i>	<i>F-A-R with a downward trend</i>	<i>Non-Functioning</i>
<i>Forage Utilization</i>	<i>≤ 45% of forage utilized on suitable range on 85% of the area. Allow no more than 65% utilization on remaining 15%.</i>	<i>≤ 40% of forage utilized on suitable range on 85% of the area. Allow no more than 55% utilization on remaining 15%.</i>	<i>≤ 35% of forage utilized on suitable range on 85% of the area. Allow no more than 50% utilization on remaining 15%</i>
<i>Stream bank Disturbance</i>	<i>≤ 30%</i>	<i>≤ 25%</i>	<i>20 – 25%</i>
<i>Stubble Height</i>	<i>leave 4" on green line and ≥ 3" in floodplains</i>	<i>leave 4-6" on green line and ≥ 4" in floodplains</i>	<i>leave 4-6" on green line and ≥ 4" in floodplains</i>
<i>Woody Browse Utilization²⁸</i>	<i>Move cattle at shift in vegetation preference</i>	<i>Move cattle at shift in vegetation preference</i>	<i>Move cattle at shift in vegetation preference</i>

Heritage

Any surface disturbing activities (i.e. water developments, livestock management facilities, etc.) associated with the implementation of AMPs are subject to compliance with Section 106 of the NHPA and would require intensive cultural resources inventory (Class III) prior to implementation. The identification and avoidance of cultural resources by project abandonment or redesign would mitigate any direct impacts from project implementation as protection measures and would be added to all appropriate surface disturbing actions. Should cultural resources be identified during the course of project implementation, operations will cease and the South Zone Archaeologist notified to complete resource documentation and evaluation for eligibility. Cultural resources awareness and protection language will be appended to each grazing permit.

²⁷ F-A-R = Functioning-At-Risk

²⁸ Woody browse AULs also apply to riparian and upland woody species, including aspen.

Mitigation measures would ensure cultural resources are not impacted by livestock grazing and connected activities (structural improvements, salting, etc.). If there is potential to affect a cultural site, additional mitigation measures would be developed prior to project implementation in consultation with MT State Historic Preservation Office.

Transportation

Administrative use and permittee use during project implementation would be authorized through a permit on routes with travel restrictions identified on the Beaverhead-Deerlodge National Forest Map (2013) and the Beaverhead-Deerlodge Forest Plan Record of Decision II Addendum to Travel Route. Travel during restricted periods could be authorized on a case by case basis for permit administration by the authorizing official (District Ranger).

Monitoring to ensure that livestock grazing and associated activities do not cause damage to the road system or resource damage does not occur during times of permitted use of existing routes for permit administration.

Wildlife

Existing water tanks without wildlife escape ramps would be retro-fitted to meet requirements.

Infrastructure development, watershed restoration and habitat restoration projects will occur outside of the Spring Period (April 1-June 1) or completed in less than 1 day in riparian areas; project does not result in an increase in user type; motorized vehicle use occurs on existing open roads or if on restricted roads, use does not exceed admin use levels (6 trips per week or 30 day window). Day use only or camping of less than 20 individuals and less than 5 days in the analysis area

Mechanical Equipment - Activity occurs outside of spring period (April 1-June 1) and within 500 meters of an open or restricted road

Sensitive Plants

All new range structural improvements will be designed to avoid or reduce impacts to known sensitive plant populations and could include but is not limited to:

Construction of riparian or spring enclosure fences to include plant populations;

Placement of water troughs 200 feet or greater from known populations;

Route water pipe around known populations.

Sensitive plant population protection measures would be added to all appropriate surface disturbing actions.

No herbicide will be applied directly on sensitive plants during spot applications and a 100 foot buffer will be employed around known populations of sensitive plants during broadcast applications (including aerial). All aerial treatment areas will be surveyed for sensitive plants prior to initial spraying.

Allotment Specific

Seymour Allotment

Monitor livestock and wildlife use to evaluate mutual benefits and/or problems.

Fishtrap Allotment

New water developments would be spring developments with head boxes, <300 feet of piping for gravity feed to a water tank with posts and rails around the tank for protection and stabilization, and <0.1 mile of fencing around the spring to exclude livestock from the spring source. Tanks would include escape ramps and a mechanism, such as a float or shut-off valve, controlling water flow to reduce potential impacts to sage-grouse and other birds (USDA FS 2012).

New spring water developments in sage grouse habitat would be designed to maintain free water and wet meadows and include escape ramps and a mechanism, such as a float or shut-off valve, controlling water flow in tanks and troughs to reduce potential impacts to sage-grouse and other birds (USDA FS 2012).

Mudd Creek Allotment

New water developments would use non-reflective and earth-tone color materials in construction and installation. Darker, earth-tone fiberglass tanks are recommended to reduce color contrast with the surrounding environment.

New water developments would be spring developments with head boxes, <300 feet of piping for gravity feed to a water tank with posts and rails around the tank for protection and stabilization, and <0.1 mile of fencing around the spring to exclude livestock from the spring source. Tanks would include escape ramps and a mechanism, such as a float or shut-off valve, controlling water flow to reduce potential impacts to sage-grouse and other birds (USDA FS 2012).

New spring water developments in sage grouse habitat would be designed to maintain free water and wet meadows and include escape ramps and a mechanism, such as a float or shut-off valve, controlling water flow in tanks and troughs to reduce potential impacts to sage-grouse and other birds (USDA FS 2012).

Monitor effectiveness of mitigation/design features for water developments within one year of construction.

Pintler Creek Allotment

To remove potential impacts from livestock grazing to streambanks during stream restoration action, Pintler Meadows would be rested from livestock grazing for 10 years or until desired conditions or restoration resource objectives are met.

Cut/clip 500–1,000 willow cuttings from various nearby streams and plant willows along 1,000 feet of stream.

Seed with native plants in areas above bank full as needed along the 1,000 feet of stream.

In accordance with minimum tools assessment, only hand or primitive (horse drawn) tools would be used in Pintler Meadows.

New drift fence would be log worm fence with 3 logs per panel, 16 feet long, and greater than 12 inches dbh (diameter at breast height) for a distance of 1,584 to 4,805 feet. Fence specifications outlined in Forest Service GTR 2400-Range 8824 2803 (USFS 1988) would be followed.

Avoid creating openings or damaging remaining trees when removing trees for fencing to minimize visible changes to the remaining stand.

Scatter limbs and tops so as not to be evident as slash. Distributing this material throughout the area would reduce the overall effect of the activity.

Cover stumps of cut trees with soil/duff to reduce contrast with the surrounding area.

New water developments would be spring developments with head boxes, <300 feet of piping for gravity feed to a water tank with posts and rails around the tank for protection and stabilization, and <0.1 mile of fencing around the spring to exclude livestock from the spring source. Tanks would include escape ramps and a mechanism, such as a float or shut-off valve, controlling water flow to reduce potential impacts to sage-grouse and other birds (USDA FS 2012).

New spring water developments in sage grouse habitat would be designed to maintain free water and wet meadows and include escape ramps and a mechanism, such as a float or shut-off valve, controlling water flow in tanks and troughs to reduce potential impacts to sage-grouse and other birds (USDA FS 2012).

Monitor effectiveness of mitigation/design features for slash disposal and stumps within one year of tree removal.

Mussigbrod Allotment

To remove potential impacts from livestock grazing to streambanks during stream restoration action, Bender Exclosure would be rested from livestock grazing for 10 years or until desired conditions or restoration resource objectives are met.

Cut/clip 500–1,000 willow cuttings from various nearby streams and plant willows along 1,000 feet of stream.

Seed with native plants in areas above bank full as needed along the 1,000 feet of stream.

Install grade control structures (i.e., native boulder/log weirs) using heavy equipment. Use local materials within ¼ mile of the site in Bender Pasture as applicable along the 1,000 feet of stream during low water period. Grade control structures would be placed to stop current headcutting, recover vertical stability of the channel and reconnect historic floodplain.

Obtain applicable permits from Montana Department of Environmental Quality to work in the stream and modify the stream bank in Bender pasture.

Conversion of the temporary fence to a permanent fence would be log worm fences with 3 logs per panel, 16 feet long, and greater than 12 inches dbh (diameter at breast height) for a distance of 1,584 to 4,805 feet. Fence specifications outlined in Forest Service GTR 2400-Range 8824 2803 (USFS 1988) would be followed.

Select trees to be cut such that the effects of removal and removal of limbs and tops would not be visible from identified CL1 and 2 viewing platforms.

New water developments would use non-reflective and earth-tone color materials in construction and installation. Darker, earth-tone fiberglass tanks are recommended to reduce color contrast with the surrounding environment.

New water developments would be spring developments with head boxes, <300 feet of piping for gravity feed to a water tank with posts and rails around the tank for protection and stabilization, and <0.1 mile of fencing around the spring to exclude livestock from the spring source. Tanks would include escape ramps and a mechanism, such as a float or shut-off valve, controlling water flow to reduce potential impacts to sage-grouse and other birds (USDA FS 2012).

New spring water developments in sage grouse habitat would be designed to maintain free water and wet meadows and include escape ramps and a mechanism, such as a float or shut-off valve, controlling water flow in tanks and troughs to reduce potential impacts to sage-grouse and other birds (USDA FS 2012).

Monitor effectiveness of mitigation/design features for water developments within one year of construction.

Monitor effectiveness of mitigation/design features for slash disposal and stumps within one year of tree removal.

Ruby Creek Allotment

Evaluate and document potential impacts to Pioneer Town Site every two years. Continual monitoring would allow for consistent condition assessments to indicate whether continued livestock management on the Ruby Creek allotment is having any impact on the site. New water developments would be spring developments with head boxes, <300 feet of piping for gravity feed to a water tank with posts and rails around the tank for protection and stabilization, and <0.1 mile of fencing around the spring to exclude livestock from the spring source. Tanks would include escape ramps and a mechanism, such as a float or shut-off valve, controlling water flow to reduce potential impacts to sage-grouse and other birds (USDA FS 2012).

New spring water developments in sage grouse habitat would be designed to maintain free water and wet meadows and include escape ramps and a mechanism, such as a float or shut-off valve, controlling water flow in tanks and troughs to reduce potential impacts to sage-grouse and other birds (USDA FS 2012).

Dry Creek Allotment

New water developments would be spring developments with head boxes, <300 feet of piping for gravity feed to a water tank with posts and rails around the tank for protection and stabilization, and <0.1 mile of fencing around the spring to exclude livestock from the spring source. Tanks would include escape ramps and a mechanism, such as a float or shut-off valve, controlling water flow to reduce potential impacts to sage-grouse and other birds (USDA FS 2012).

New spring water developments in sage grouse habitat would be designed to maintain free water and wet meadows and include escape ramps and a mechanism, such as a float or shut-off valve, controlling water flow in tanks and troughs to reduce potential impacts to sage-grouse and other birds (USDA FS 2012).

Twin Lakes Allotment

New water developments would be spring developments with head boxes, <300 feet of piping for gravity feed to a water tank with posts and rails around the tank for protection and stabilization, and <0.1 mile of fencing around the spring to exclude livestock from the spring source. Tanks would include escape ramps and a mechanism, such as a float or shut-off valve, controlling water flow to reduce potential impacts to sage-grouse and other birds (USDA FS 2012).

New spring water developments in sage grouse habitat would be designed to maintain free water and wet meadows and include escape ramps and a mechanism, such as a float or shut-off valve, controlling water flow in tanks and troughs to reduce potential impacts to sage-grouse and other birds (USDA FS 2012).

Monument Allotment

New water developments would be spring developments with head boxes, <300 feet of piping for gravity feed to a water tank with posts and rails around the tank for protection and stabilization, and <0.1 mile of fencing around the spring to exclude livestock from the spring source. Tanks would include escape ramps and a mechanism, such as a float or shut-off valve, controlling water flow to reduce potential impacts to sage-grouse and other birds (USDA FS 2012).

New spring water developments in sage grouse habitat would be designed to maintain free water and wet meadows and include escape ramps and a mechanism, such as a float or shut-off valve, controlling water flow in tanks and troughs to reduce potential impacts to sage-grouse and other birds (USDA FS 2012).

Pioneer Allotment

New water developments would be spring developments with head boxes, <300 feet of piping for gravity feed to a water tank with posts and rails around the tank for protection and stabilization, and <0.1 mile of fencing around the spring to exclude livestock from the spring source. Tanks would include escape ramps and a mechanism, such as a float or shut-off valve, controlling water flow to reduce potential impacts to sage-grouse and other birds (USDA FS 2012).

New spring water developments in sage grouse habitat would be designed to maintain free water and wet meadows and include escape ramps and a mechanism, such as a float or shut-off valve, controlling water flow in tanks and troughs to reduce potential impacts to sage-grouse and other birds (USDA FS 2012).

Saginaw Allotment

New water developments would be spring developments with head boxes, <300 feet of piping for gravity feed to a water tank with posts and rails around the tank for protection and stabilization, and <0.1 mile of fencing around the spring to exclude livestock from the spring source. Tanks would include escape ramps and a mechanism, such as a float or shut-off valve, controlling water flow to reduce potential impacts to sage-grouse and other birds (USDA FS 2012).

New spring water developments in sage grouse habitat would be designed to maintain free water and wet meadows and include escape ramps and a mechanism, such as a float or shut-off valve, controlling water flow in tanks and troughs to reduce potential impacts to sage-grouse and other birds (USDA FS 2012).